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CONTENTS

		Page
INTRODUCTION		1
ABBREVIATIONS		2
PART 1 -	METAL AND INDUSTRIAL MINERAL MINES AND PROCESSING PLANTS IN CANADA	3
	Metal Mines and Processing Plants	4
	Industrial Mineral Mines and Processing Plants	27
	Lime Producers	50
PART 2 -	METALLURGICAL WORKS IN CANADA NONFERROUS AND PRECIOUS METALS	55
	Aluminum	56
	Antimonial Lead	56
	Bismuth	57
	Cadmium	57
	Calcium	57
	Cobalt	58
	Copper	58
	Gallium	59
	Indium	59
	Lead	59
	Magnesium	60
	Mercury	60
	Molybdenum	60
	Nickel	60
	Precious Metals	61
	Selenium and Tellurium	63
	Strontium	64
	Thallium	64
	Tin	64
	Titanium	64
	Tungsten	65
	Uranium	65
	Zinc	65
PART 3 -	METALLURGICAL WORKS IN CANADA PRIMARY IRON AND STEEL	67
	Iron and Steel Furnaces	68
	Steel Rolling Mills	77
	Cold Drawn Steel Plants	87
	Ferroalloy Plants	88
	Steel Continuous Casting Plants	90
	Steel Pipe and Tube Producers	91
	Major Iron Powder and Ferrite Producers	95

INTRODUCTION

The Operators' List is a compilation of information relating to mines and processing facilities in Canada. This information was obtained primarily, as in previous years, by means of a questionnaire sent to all the companies concerned.

PART 1 **Metal and Industrial Mineral Mines and Processing Plants in Canada** lists significant information concerning Metal Mines and Processing Plants (Section 1), Industrial Mineral Mines and Processing Plants (Section 2) and Lime Producers (Section 3) in Canada. This information includes, as of January 1, 1983, the name of the operator, location of the mine or plant, its capacity, processes, products and other details of special interest.

PART 2 **Metallurgical Works in Canada, Nonferrous and Precious Metals** lists the principal metallurgical works in Canada as of January 1, 1983, that treat ores and concentrates of nonferrous and precious metals. Not listed are those companies that basically refine scrap and other secondary materials, foundries, base-bullion gold refineries associated with mines, and fabricating plants.

PART 3 **Metallurgical Works in Canada, Primary Iron and Steel** lists in detail the facilities, productive capacities, products and other data of companies that comprised the primary iron and steel industry in Canada as of January 1, 1983. There are also separate sections on the steel pipe and tube industry and the iron powder and ferrite industry.

The cooperation of all those companies who contributed information and the individuals who assisted in the revision of the Operators' List is greatly appreciated.

ABBREVIATIONS

Conc	Concentrate
S	Solution mine
Twp.	Township
U	Underground mine
O	Open pit or quarry
tpy	tonnes per year
-	Nil
..	Not available

Metric Conversion Factors

1 tonne	=	1.1023 short tons
1 tonne	=	0.9842 long tons
1 m	=	1.0936 yard
1 g	=	0.0321 oz (troy)

PART 1

METAL AND INDUSTRIAL MINERAL MINES AND PROCESSING PLANTS IN CANADA

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
METAL MINES AND PROCESSING PLANTS						
NEWFOUNDLAND AND LABRADOR						
ASARCO Incorporated Buchans Unit, Buchans, Newfoundland A0H 1G0	Buchans, Grand Falls District/U	1927	1 130	Flotation	Copper conc, zinc conc, lead conc	Copper, lead and zinc conc all shipped to USA; conc contain silver, lead and gold.
Consolidated Rambler Mines Limited P.O. Box 937 Saint John, New Brunswick E2L 4E3	Ming Mine, Baie Verte/U	1964	1 360	Flotation	Copper conc	Conc containing gold and silver shipped to Noranda Mines Limited, Noranda and Mines Gaspé (a division of Noranda Mines), Murdochville, Quebec. Mining terminated April 1982.
Iron Ore Company of Canada Sept-Îles, Quebec G4R 4L5	Labrador City/O	1962 1973 Expanded	145 000 Feed crude ore	Spirals and magnetic separators, pelletizing	Iron ore conc and pellets	19 137 000 tonnes of conc and 10 323 000 tonnes of pellets produced annually.
Newfoundland Zinc Mines Limited P.O. Box 70 Daniel's Harbour, Newfoundland A0K 2C0	Newfoundland Zinc Mine, Daniel's Harbour/U	1975	1 600	Flotation	Zinc conc	Conc shipped to AMAX Inc. and Marc Rich.
Pickands Mather & Co. Wabush Mines Wabush, Labrador A0R 1B0	Scully Mine, Wabush, Labrador/O	1965	16 700 (iron ore conc)	Crush and grind specular hematite; conc	Iron ore conc	Conc shipped to Pointe Noire for pelletizing; iron ore pellets are shipped to steel plants of participating companies: Stelco Inc., Dofasco Inc., Jones & Laughlin Steel Corporation; Inland Steel Company; Interlake, Inc., Wheeling-Pittsburgh Steel Corporation; Finsider S.p.A. of Italy; Pickands Mather & Co.
NOVA SCOTIA						
Canada Wide Mines Ltd. (Gays River Division) P.O. Box 59 Milford Station, Nova Scotia B0N 1Y0	Gays River Mine, Colchester, Halifax County/U	1979	47 000 tpy lead 18 000 tpy zinc	Flotation	Lead conc zinc conc	Production started in November 1979. Operations were suspended in August 1981. Mine salvaged and closed in July 1982.

Yava Mines Limited 40 St. Clair Street West Suite 808 Toronto, Ontario M4V 1M2	Silver mines	1979	600		Lead conc	Mine closed in November 1981.
NEW BRUNSWICK						
Brunswick Mining and Smelting Corporation Limited P.O. Box 3000 Bathurst, New Brunswick E2A 3Z8	No. 6 Bathurst/O No. 12 Bathurst Gloucester County/ U	1966 1964	10 000	Flotation	Zinc conc, lead conc, copper conc, bulk conc	Zinc conc shipped to Société Générale des Minerais, SA., Belgium; Canadian Electrolytic Zinc Limited, Valleyfield; and others; lead conc to company's smelter at Belledune; copper conc to Noranda Mines Limited (Mines Gaspé Division) at Murdochville, Quebec.
Consolidated Durham Mines & Resources Limited 916 - 111 Richmond Street West Toronto, Ontario M5H 2G4	Lake George Mine, Prince William/U	1971	360	Flotation	Antimony conc	Operations ceased June 1981.
Heath Steele Mines Limited P.O. Box 400 Newcastle, New Brunswick E1V 3M5	55 km NW of Newcastle, Northumberland County/ U	1957 1975 Expanded	4 000	Flotation	Copper conc, lead conc, zinc conc	Zinc conc shipped to Canadian Electrolytic Zinc Ltd., Valleyfield, Belgium, Italy and West Germany. Copper conc shipped to Mines Gaspé (a division of Noranda Mines Limited), Murdochville and Noranda Mines Limited, Noranda, Quebec; lead conc shipped to Italy, West Germany and Belgium; conc contain minor amounts of silver and gold.
QUEBEC						
Agnico-Eagle Mines Limited (Gold Division) 1612 - 401 Bay Street P.O. Box 102 Toronto, Ontario M5H 2Y4	Joutel Twp./U	1974	1 200	Flotation, cyanidation	Gold and silver bullion	
Bachelor Lake Gold Mines Inc. 166 Pearl Street Toronto, Ontario M5H 1L5	Desmaraisville/U		460		Gold ore	Production began in 1982.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
QUEBEC (cont'd)						
Belmoral Mines Ltd. P.O. Box 7000 Val d'Or, Quebec J9P 5K3	Ferderber Mine, Bourlamaque Twp.	1981	1 100	Flotation cyanidation	Gold bullion	Gold bullion shipped to Royal Canadian Mint, Ottawa.
Bras d'Or Mines Ltd. P.O. Box 7000 Val d'Or, Quebec J9P 5K3	Geo. H. Dumont Mine Bourlamaque Twp.	..	..	..	Gold bullion	Ore milled at Belmoral mill.
Camchib Resources Inc. P.O. Box 3400 Chibougamau, Quebec G8P 2K9	Original Mine, Obalski Twp./U	1955	2 500	Flotation	Copper-gold conc	Copper and gold ore from Henderson and Cedar Bay mines. Gold ore from Gwillim mine.
	Original Mine, Obalski Twp./U	1980	200	Cyanidation	Gold bullion	
	Cedar Bay Mine, McKenzie Twp./U	..	..	Same	Copper ore	
	Henderson Mine, Roy Twp./U	..	..	Same	Copper ore	
	Gwillim Mine	..	..	Same	Gold ore	
Camflo Mines Limited P.O. Box 640 Malartic, Quebec J0Y 1Z0	Malartic and Fourniére Twp./U	1969	1 134	Cyanidation	Gold bullion	Gold bullion bars are shipped to Royal Canadian Mint, Ottawa, for refining.
Corporation Falconbridge Copper (Lake Dufault Division) P.O. Box 40 Commerce Court West Toronto, Ontario M5L 1B4	Millenbach Mine, Dufresnoy Twp., Noranda/U	..	..	Flotation	Copper and zinc ore	Millenbach mine was closed in August 1981 due to exhaustion of ore. Copper conc shipped to Noranda; zinc conc shipped to Valleyfield and St. Joe Minerals Corporation, USA; copper conc contain gold and silver.
	Corbet Mine, Duprat Twp., Noranda/U	..	..	Flotation	Copper and zinc ore	
(Opemiska Division)	Cooke Mine, Springer Mine, Perry Mine, Levy Twp., Chapais/U	1953	2 800	Flotation	Copper conc	Conc containing gold and silver shipped to Noranda.

Darius Gold Mines Inc. Cadillac, Quebec J0Y 1C0	Cadillac/U	1978	180	Cyanidation	Gold bullion	Operations ceased October 30, 1981.
El Coco Explorations Ltd. P.O. Box 7000 Val d'Or, Quebec J9P 5K3	Dasserat Twp.	..	..	..	Gold bullion	Operations suspended.
Iron Ore Company of Canada Sept-Iles, Quebec G4R 4L5	Schefferville/O	1954	85 000 crude	Crush, screen goethite, limonite, iron ore, hematite	Direct shipping iron ore and plant feed	Mine closed November 1982.
	Beneficiating plants Sept-Iles	1973	19 000	Flotation, pelletizing	Iron ore pellets	
Kiena Gold Mines Limited Falconbridge Limited P.O. Box 40 Commerce Court West Toronto, Ontario M5L 1B4	Dubuisson/U	..	..	..	Gold ore	Ore treated at Teck Corporation (Division Lamaque). Residue returned to Kiena.
Lac Minerals Ltd. P.O. Box 156 Royal Bank Plaza Toronto, Ontario M5J 2J4	La mine de Bousquet, Bousquet Twp./U	1979	1 750	Cyanidation	Gold, silver	Ore is trucked at the rate of 50 000 tonnes per month to Les Terrains Aurifères Malartic mill for milling.
	La Mine Doyon Bousquet Twp/O	1982	3 750	Cyanidation	Gold, silver	Currently shipping to Est-Malartic custom mill, Noranda smelter as flux and on site mill. 50% owned by SOQUEM.
Louvem Mining Company Inc. 1710, 1000 Sherbrooke St. West Montreal, Quebec J9P 4P8	Louvicourt Division, Louvicourt Twp./U	..	1 000	Flotation, cyanidation	Copper-zinc-silver-gold ore	
	Chimo Mine	..	300	Flotation, precipitation	Gold ore	Since March 1981, work has commenced on the old "Chimo Gold Mine" on which an option was obtained in 1978.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
QUEBEC (cont'd)						
Maclaren Forest Products Inc. (Mines Gaspé Division) Murdochville, Quebec G0E 1W0	Copper Mountain Mine/O Needle Mountain Mine/U Holland Twp., Murdochville	1955 1973 expanded	33 000	Flotation, smelting, leaching, precipitating	Copper anodes, molybdenite conc	Copper conc processed in the company's smelter; the conc contains silver, selenium, tellurium, bismuth; the smelter produces copper anodes which are refined at Canadian Copper Refiners Limited, Montreal East; molybdenite conc marketed through Noranda Sales (1961) Ltd., a subsidiary of Noranda Mines Limited. Construction of oxide leaching plant completed late 1975, and the precipitation plant was revised in late 1976.
Madeleine Mines Ltd. P.O. Box 460 Ste. Anne des Monts, Quebec G0E 2G0	Boisbuisson and Lapotardière Twps., Gaspé/U	1969	2 500	Flotation	Copper conc	Operations ceased June 30, 1982.
Mines Est-Malartic Ltée, Les Suite 2105, North Tower, P.O. Box 156 Royal Bank Plaza Toronto, Ontario M5J 2J4	East Malartic Mine, Fourniére Twp., Malartic/U	1938	1 850	Cyanidation	Gold bullion	Mine closed in September 1979, when the mill ceased treating its ore and that of nearby Barnat mine. Mill then treated custom ore. An extension to the mill in the form of 6 agitators was completed in 1981 to increase the mill's treatment capacity to 1 200 tpd of Mine Doyon ore.
	Barnat Mine, Fourniére Twp., Malartic/U	..	..	..	Gold ore	Mine closed in June 1981.
Noranda Mines Limited (Matagami Division) P.O. Box 45 Commerce Court West Toronto, Ontario M5L 1B6	Mattagami Lake Mine, Matagami/U	1963	4 200	Flotation	Copper conc, zinc conc	Treats ore from its mines. Copper conc shipped to Noranda; zinc conc shipped to Canadian Electrolytic Zinc Limited, Valleyfield, Quebec.

	Orchan Mine/U	1963	1 700	..	Zinc-copper ore	Closed October 1982.
	Norita Mine/U	1974	..	..	Zinc-copper ore	Ore trucked at 900 tpd to Mattagami Lake Mine for crushing and treatment.
	Radiore No. 2/O	..	..	..	Copper-zinc ore	Closed March 1982.
Noranda Mines Limited (Horne Division) P.O. Box 4000 Noranda, Quebec J9X 5B6	Horne Mine, Rouyn Twp., Noranda/O	1928	2 000	Flotation, smelting	Gold ore, copper-zinc ore	Ore reserves mined out July 1, 1976 and Horne Mine closed. Custom milling and smelting operations continue. Mill treats slag from the Noranda continuous process reactor, gold ore from Chadbourne mine, and copper-zinc ore from Les Mines Gallen Limitee. Custom copper-gold conc and recycled materials are treated in the company's smelter to produce copper anodes. These are shipped to Canadian Copper Refiners Limited, Montreal East for electrorefining.
	Chadbourne Mine, Rouyn	..	..	..	Gold ore	
Northgate Patino Mines Inc. Suite 3140, P.O. Box 143 1 First Canadian Place Toronto, Ontario M5X 1C7	Copper Rand Mine, McKenzie Twp., Chibougamau/U	1959	2 940	Flotation	Copper-gold-silver conc	Copper Rand Mine has mill at mine site. Mine production 627 000 tpy. Feed 75% from Copper Rand Mine, 25% from Portage Mine.
	Lemoine Mine, Lemoine Twp., Chibougamau/U	1976	460	Flotation	Copper-gold-silver conc, zinc conc	Milling ceased March 1983 with exhaustion of ore. Exploration of property to continue. Mill being kept on standby.
	Portage Mine, Roy Twp./U	1959	..	..	Gold-copper-silver ore	Ore milled at Copper Rand. In production at 22 400 tpy. Expanding to 327 000 tpy by mid 1984.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
QUEBEC (cont'd)						
Pickands Mather & Co. Wabush Mines (Pointe Noire Division) Pointe-Noire, Quebec G4R 4L4	Pelletizing Plant, Pointe-Noire	1965	17 000 (pellets)	Pelletize specular hematite-magnetite iron ore	Iron ore pellets	Conc from Scully Mine of Wabush Mines in Labrador; iron ore pellets are shipped to steel plants of participating companies: Stelco Inc., Dofasco Inc., Jones & Laughlin Steel Corporation; Inland Steel Company; Interlake, Inc. Wheeling-Pittsburgh Steel Corporation; Finsider S.p.A. of Italy; Pickands Mather & Co.
Quebec Cartier Mining Company Port-Cartier, Quebec G5B 2H3	Mount Wright/O	1975	18.7 million tonnes of conc/year	Autogenous grinding with spiral separation	Hematite conc	Iron ore conc shipped to world markets and the parent company, United States Steel Corporation.
QIT-Fer et Titane Inc. P.O. Box 560 Sorel, Quebec J3P 5P6	Mine at Lac Tio, wharf at Havre St. Pierre/O Mill and treatment plant at Tracy	1950	2 500 000 tonnes of ilmenite ore/year 601 000 tonnes of pig iron/yr 865 000 tonnes of titania slag/yr	Spirals and cyclone concentrators, roasting, smelting	Ilmenite conc, pig iron, titania slag	Mined ilmenite ore is crushed at Lac Tio; the plant at Tracy beneficiates the ore and extracts the metal products by roasting and smelting.
Selco Inc. 55 University Avenue Toronto, Ontario M5J 2H7	Les Mines Selbaie Joutel area/U	1981	1 500	Flotation	Copper conc	
Services (T.M.G.) Inc., Les P.O. Box 70 3400 chemin-du-Columbium Saint-Honoré Chicoutimi, Quebec G0V 1L0	Saint Honoré (Martel/U)	1976	2 300	Flotation	Pyrochlore conc	All conc (60% Cb_2O_5) is exported on long-term contract.

Sidbec-Normines Inc. 440 rue Dorchester Ouest Montreal, Quebec H2Z 1V7	Fire Lake Mine/O	..	..	..	Iron Ore	Crushing plant and stockpile facility at mine site. Hematite ore shipped by rail for beneficiation at Gagnon. Plant and mine purchased on January 1, 1977 from Quebec Cartier Mining Company which manages the operation.
	Lac Jeannine, Gagnon	1961	6 000 000 tpy conc	Autogenous grinding with spiral separation	Hematite conc	Mine closed down mid-1977. Concentrator, purchased in 1977 from Quebec Cartier Mining Company, treats ore railed from Fire Lake Mine and is managed by Quebec Cartier. Conc is pelletized at Port Cartier and shipped to Sidbec's direct reduction furnaces at Contrecoeur. Standard blast furnace pellets are shipped to British Steel Corporation and others.
Sigma Mines (Quebec) Limited Val-d'Or, Quebec J9P 4N8	Bourlamaque Twp., Val-d'Or/U	1937	1 270	Cyanidation	Gold bullion	Gold bullion bars are shipped to the Royal Canadian Mint, Ottawa, for refining and subsequently sold on free world markets.
Teck Corporation (Lamaque Division) Val d'Or, Quebec J9P 4N8	Bourlamaque County, Val-d'Or/U	1935	1 875	Cyanidation	Gold bullion	Gold bullion bars are shipped to Johnson Matthey, Inc., Brampton, Ontario for refining and sale.
ONTARIO						
Agnew Lake Mines Limited Box 91 Commerce Court West Toronto, Ontario M5L 1C7	Hyman Twp. Espanola/U	1977	453 600 kg/year	Leaching	U_3O_8	Underground mining operations ceased in May 1980. Leaching process continuing.
Agnico-Eagle Mines Limited (Silver Division) 1612 - 401 Bay Street P.O. Box 102 Toronto, Ontario M5H 2Y4	Temiskaming Mine Coniagas Mine Coleman Twp., Cobalt/U	1951	360	Jigs, tables, flotation	Silver conc	Purchased refinery for silver conc in April 1982.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
ONTARIO (cont'd)						
Algoma Steel Corporation, Limited, The (Algoma Ore Division) Wawa, Ontario P0S 1K0	George W. MacLeod Mine, No. 30 Twp., Wawa/U	1946 1939	8 100 tonnes heavy media ore 2.1 x 10^6 tonnes of sinter/year	Heavy media separation of siderite followed by sintering	Sintered iron ore	Siderite from the mine is sintered after concentration by the sink-float process. Crushed limestone is added to the sinter mix to provide blast furnace flux. The Algoma Central Railway carries the sinter to The Algoma Steel plant at Sault Ste. Marie.
Campbell Red Lake Mines Limited P.O. Box 270 1 First Canadian Place Toronto, Ontario M5X 1H1	Balmer Twp., Balmertown/U	1949	1 000	Amalgamation, flotation, cyanidation	Gold bullion	Gold sold on open market.
Canadaka Mines Limited 301 - 2161 Yonge Street Toronto, Ontario M4S 3A6	Coleman Twp., Cobalt/U	1976	450	Gravity flotation	Silver	Operations ceased December 1980.
Chromasco Limited 130 Adelaide Street West P.O. Box 1160 Station A Toronto, Ontario M5W 1G5	Haley/O	1942	12 500 Magnesium 1 000 Calcium 100 Strontium	Calcining, reduction, refining, melting, casting, extruding	Magnesium, calcium, strontium	Dolomite is mined in an open pit and calcined in rotary kiln. Magnesium is thermally reduced from the calcined dolomite using ferrosilicon as the reducing agent. The reaction is carried out in retorts evacuated to a very low pressure. The retorts are heated by electric power or by natural gas. The condensate is melted and cast into ingots. The magnesium thus produced is very pure, nominally 99.95%. Calcium is produced by a similar process from purchased raw material.

Cliffs of Canada Limited P.O. Box 877 Kirkland Lake, Ontario P2N 3K7	Adams Mine, Boston Twp., near Kirkland Lake/O	1965	1 220 000 tonnes of pellets/ year	Magnetic separation, flotation	Iron ore pellets	The mine is owned by Dofasco Inc. Magnetite is concentrated by magnetic separators, the conc is cleaned by flotation to remove silica; the finished conc is pelletized and the iron ore pellets are shipped to Dofasco's steel plant.
Cliffs of Canada Limited P.O. Box 217 Temagami, Ontario P0H 2H0	Sherman Mine, Temagami/O	1968	1 117 600 tonnes of pellets/ year	Magnetic separation	Iron ore pellets	Pellets are shipped daily to Dofasco Inc. via unit train.
Denison Mines Limited P.O. Box 40 Royal Bank Plaza Toronto, Ontario M5J 2J4	Elliot Lake/U	1957	13 600	Acid leaching	Ammonium yellow cake	Ammonium yellow cake contains about 80% U_3O_8 (uranium oxide) equivalent.
Dickenson Mines Limited (Red Lake Division) 600 - 65 Queen Street West Toronto, Ontario M5H 2M5	Arthur White Mine, Balmer Twp./U	1948	700	Amalgamation, cyanidation	Gold bullion	Gold bullion bars are shipped to Royal Canadian Mint for refining.
Dome Mines, Limited South Porcupine, Ontario P0N 1H0	Tisdale Twp., South Porcupine/U	1912	1 800	Jig concentrates, cyanidation	Gold bullion	Gold bullion bars are shipped to the Royal Canadian Mint, Ottawa, for refining.
Falconbridge Limited P.O. Box 40 Commerce Court West Toronto, Ontario M5L 1B4	Falconbridge Mine Falconbridge Twp./U	1933	2 700	Flotation	Nickel-copper conc	In 1982, the company operated five nickel mines in the Sudbury area: the Falconbridge, East, Strathcona, Lockerby, Onaping and North Mines operated for six months in 1982 with Onaping mine placed on standby in June 1982. Ore from company mines is beneficiated in its mills to produce a nickel-copper conc; the conc is smelted to nickel-copper matte that is shipped to the Falconbridge refinery in Kristiansand, Norway, where the following metals are recovered: nickel, copper, gold, silver, platinum, palladium, iridium, rhodium, ruthenium and cobalt.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
ONTARIO (cont'd)						
Falconbridge Limited (cont'd)	Strathcona Mine, Levack Twp./U	1968	7 600	Flotation	Nickel-copper conc	Mine operated for six months in 1982.
	East Mine, Falconbridge Twp./U	..	..	Same	Nickel-copper ore	Mine operated for six months in 1982.
	North Mine, Levack Twp./U	..	..	Same	Nickel-copper ore	Mine operated for six months in 1982.
	Onaping Mine, Levack Twp./U	..	..	Same	Nickel-copper ore	Mine operated for six months in 1982 and then placed on standby.
	Lockerby Mine, Denison Twp./U	..	..	Same	Nickel-copper ore	Mine operated for six months in 1982.
	Fraser Mine, Levack Twp./U	..	..	Same	Nickel-copper ore	Commenced limited production in 1982 with development continuing.
The Griffith Mine Pickands Mather & Co., Managing Agent Red Lake, Ontario P0V 2M0	The Griffith Mine, Bruce Lake, near Red Lake/O	1968	1 524 000 tonnes of pellets/ year	Magnetic concentration, flotation	Iron ore pellets	Iron ore pellets are shipped to the steel plant of Stelco Inc.
Inco Limited Sudbury, Ontario P0M 1N0	Copper Cliff Mill, Snider Twp.	1930	..	Flotation, magnetic separation	Copper, nickel and pyrrhotite conc	Two mills, Clarabelle and Frood-Stobie, beneficiate ores mined by the company in the Sudbury area. Levack mill closed down February 1978. Bulk conc is pumped to the Copper Cliff mill for separation into nickel, copper and pyrrhotite conc. The nickel conc and copper conc are pyrometallurgically reduced at Copper Cliff Smelter to produce impure copper and nickel metals. These are treated by company-owned refinery plants that recover 14 different elements for industrial
	Clarabelle Mill, Snider Twp.	1971	32 000	Magnetic separation, flotation	Nickel-copper and pyrrhotite conc	
	Frood-Stobie Mill, McKim Twp.	1967	20 000	Flotation	Nickel-copper conc	
	Levack Mill, Levack Twp.	1959		Magnetic separation, flotation	Copper, nickel and pyrrhotite concs	

					use: nickel, copper, cobalt, sulphur, selenium, tellurium, silver, gold, ruthenium, rhodium, iridium, osmium, palladium and platinum. The pyrrhotite conc is treated at the company's iron ore recovery plant. Iron from pyrite and pyrrhotite conc makes the 15th element recovered from Sudbury ores.
Iron Ore Recovery Plant, Walden	1955	630 000 leach magnetite tonnes/yr	Roasting, leaching	Leach magnetite nickel oxide, sulphuric acid	The Iron Ore Recovery Plant treats nickeliferous pyrrhotite by roasting and kiln reduction and atmospheric leaching. The products are pure nickel oxide and leach magnetite. Sulphuric acid is recovered from the roaster off-gas. The pelletizing plant is operating below capacity, producing 630 000 tonnes annually, because of environmental restraints.
Clarabelle Extension Snider Twp./O	..	..	..	Nickel-copper ore	Put on standby 1977.
Coleman Mine, Levack Twp./U	..	..	Flotation	Nickel-copper ore	
Copper Cliff North Mine, Snider Twp./U	..	..	Same	Nickel-copper ore	Currently on standby. Backfill program complete.
Copper Cliff South Mine, Snider Twp./U	..	..	Same	Nickel-copper ore	
Crean Hill Mine, Denison Twp./U	..	..	Same	Nickel-copper ore	Operation suspended July 1978; mine placed on standby.
Creighton Mine, Snider Twp./U	..	..	Same	Nickel-copper ore	
Frood-Stobie Mine, McKim and Blezard Twps./U	..	..	Same	Nickel-copper ore	

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
ONTARIO (cont'd)						
Inco Limited (cont'd)	Garson Mine, Garson Twp./U	..	..	Same	Nickel-copper ore	
	Levack Mine, Levack Twp./U	..	..	Same	Nickel-copper ore	
	Little Stobie, Blezard Twp./U	..	..	Same	Nickel-copper ore	
	North Mine, Levack Twp./U	..	..	Same	Nickel-copper ore	Bought from Falconbridge Limited and is part of Levack Mine.
	Shebandowan Mine, Hagey Twp./U	..	..	Same	Nickel-copper ore	
	Shebandowan Mill Hagey Twp.	1972	2 500	Flotation	Nickel-copper conc	
Kerr Addison Mines Limited P.O. Box 91 Commerce Court West Toronto, Ontario M5L 1C7	McGarry Twp., Virginiatown/U	1938	1 225	Cyanidation, flotation, roasting	Gold and silver bullion	Gold and silver bullion bars shipped to the Royal Canadian Mint, Ottawa, for refining.
Kidd Creek Mines Ltd. P.O. Box 175 Commerce Court Toronto, Ontario M5L 1E7	Kidd Creek Mine, Kidd Twp./O,U	1966	11 900	Flotation	Zinc conc copper conc lead conc tin conc	Started up new 59 000 tonnes copper smelter and refinery in 1981. Zinc plant expansion to 125 000 tonnes completed in 1982. Excess zinc concentrates from Timmins and Arctic Bay sold in U.S., Japan or Europe. Excess copper concentrates custom smelted and refined at Noranda and Montreal. Lead concentrate shipped to U.S. Tin concentrate sold to Mexico and U.K. Substantial silver and cadmium recovered from concentrates.
	Timmins	1966	12 300	Flotation	Zinc conc copper conc lead conc tin conc	
Lac Minerals Ltd. P.O. Box 156 Royal Bank Plaza Toronto, Ontario M5J 2J4	Macassa Mine, Teck Twp./U	1933	375	Cyanidation	Gold, silver	Start made on 2 200 metre shaft.

Madawaska Mines Limited Bancroft, Ontario K0L 1C0	Bancroft/U	1976	1 360		U_3O_8	
Mattabi Mines Limited P.O. Box 45 Commerce Court West Toronto, Ontario M5L 1B6	Ignace, Sturgeon Lake/U	1972	1 000	Flotation	Zinc conc, lead conc, copper conc	Zinc conc shipped to domestic market; Canadian Electrolytic Zinc Limited, Hudson Bay Mining and Smelting Co., Limited; lead conc containing silver shipped to Europe; copper conc containing silver and gold shipped to Noranda, Que.
	Lyon Lake/U,O	..	..	Same	Zinc conc, lead conc, copper conc	
Noranda Mines Limited P.O. Box 45 Commerce Court West Toronto, Ontario M5L 1B6	Geco Mine, Gertrude & Gemmell Twp., Manitouwadge/U	1957	5 000	Differential flotation	Copper conc, zinc conc, lead conc	Copper conc containing silver and gold shipped to Noranda, Quebec; zinc conc shipped to Valleyfield, Quebec; lead conc containing silver shipped to Trail, B.C.
Pamour Porcupine Mines, Limited P.O. Box 2010 Timmins, Ontario P4N 7X7	Pamour No. 1 Mine, Whitney Twp./U,O	1936	2 700	Flotation cyanidation	Gold bullion	Mill processes ore from No. 1 Mine and outside properties.
	Pamour No. 2 Mine/U Whitney Township					Operations suspended February, 1982.
	Pamour No. 3 Mine Deloro Twp./U	..	..	..	Gold ore	Hoisting now done through No. 2 Shaft. Production is approximately 80 000 tonnes per year.
	Schumacher Mine Tisdale Twp./U	1912 Gold 1962 Copper	2 700 Combined circuit	Jig flotation cyanidation, gold flotation, copper	Gold bullion copper conc	Mill processes ore from Schumacher Mine, 400 000 tonnes per year, and outside properties.
	Romfield property Deloro Twp./O	..	..	..	Gold ore	Surface mining is done as economics allow.
	Hoyle property Hoyle Twp./U	..	..	..	Gold	Operations suspended January 1981.
	Matachewan, Powell Twp.	..	..	..	Gold	Surface mining is done as economics allow.
	Ross Mine Hislop Twp./U	..	..	..	Gold ore	Operations continue at 250 000 tonnes per year.
	Timmins Underground Tisdale Twp./U	..	..	..	Gold ore	Production commenced in April 1982.
	Timmins Surface Tisdale Twp.	..	..	..	Gold	Surface mining is done as economics allow.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
ONTARIO (cont'd)						
Rio Algom Limited 120 Adelaide Street West Toronto, Ontario M5H 1W5	Quirke Mine, Elliot Lake/U	1956	6 350	Acid leaching	Ammonium diuranate (approx. 80% U_3O_8 equivalent	Milling capacity increased in 1978.
	Panel Mine, Elliot Lake	..	3 000	Acid leaching	Magnesium diuranate	Reactivated in 1979.
	Stanleigh Mine, Elliot Lake	..	5 000	Acid leaching	Magnesium diuranate	Scheduled to go into production in July 1983. Full production by March 1984.
Selco Inc. 55 University Avenue Toronto, Ontario M5J 2H7	South Bay Mine, Uchi Lake area/U	1971	450	Flotation	Copper conc, zinc conc	Closed May 1981.
Sungate Resources Ltd. (Renabie Mines (1981) Limited) 1995 West First Street North Vancouver, British Columbia V7P 1A8	Missanabie/U	Reopened 1981	550	Cyanidation, flotation	Gold, silver	Bullion sold on London and New York metal markets.
Teck Corporation (Silverfields Division) Box 170 7000 - First Canadian Place Toronto, Ontario M5X 1G9	Coleman Twp., Cobalt/U	1965	200	Gravity, flotation	Silver conc	Mine closed February 1983.
Umex Inc. P.O. Box 128 Pickle Lake, Ontario P0V 3A0	Thierry Mine Pickle Lake Kenora District/U	1976	4 000	Flotation	Copper conc	Operations shut down April 8, 1982. Small workforce retained to maintain facilities.
MANITOBA						
Hudson Bay Mining and Smelting Co., Limited P.O. Box 1500 Flin Flon, Manitoba R8A 1N9	Flin Flon Mine, Flin Flon-Snow Lake area/U	1931	2 000 000 tonnes/yr	Flotation	Copper conc, zinc conc, lead conc	Since May 1979 ore from company mines in the Flin Flon area is being treated at the Flin Flon mill and ore from the Snow Lake area (Stall, Anderson, Ghost, Chisel, and

						Osborne Mines) is being treated at the Snow Lake Mill situated at Stall Lake Mine site which commenced operations May 15, 1979. Conc from the Snow Lake Mill are being shipped to Flin Flon for smelting and refining. The copper conc are reduced to copper anodes in the company's smelter and refined at Canadian Copper Refiners Limited, Montreal East; zinc conc are smelted and refined in the Flin Flon plant; lead conc are shipped to Cominco Ltd., Trail. Other elements extracted in the refining processes are gold, silver, cadmium, selenium and tellurium.
	Anderson Lake Mine/U	..	..	Same	Copper ore	
	Chisel Lake Mine/U	..	..	Same	Copper-zinc-lead ore	
	Ghost Lake Mine/U	..	..	Same	Zinc ore	
	Osborne Lake Mine/U	..	..	Same	Copper-zinc ore	Shut down pending better markets.
	Rod Mine	..	..	Same	Copper-zinc ore	Development suspended.
	Spruce Point Mine	..	..	Same	Copper-zinc ore	
	Stall Lake Mine/U Snow Lake Mill	1979	3 450	Same	Copper conc, zinc conc	
	Trout Lake Mine	..	..	Same	Copper-zinc ore	
	White Lake Mine/U	..	..	Same	Copper-zinc ore	Shut down in mid-1982.
	Westarm Mine/U	..	..	Same	Copper-zinc ore	
	Centennial Mine/U	..	..	Same	Copper-zinc ore	Shut down for redevelopment in 1982.
Inco Limited (Manitoba Division) Thompson, Manitoba R8N 1P3	Thompson Mill, Thompson	1961	14 000	Flotation	Nickel conc, copper conc, pentlandite conc	Thompson Mill treats ore from all Thompson area mines (Thompson, Pipe Mines).

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
MANITOBA (cont'd)						
Inco Limited (cont'd)	Thompson Mine, Thompson/U	..	..	Same	Nickel-copper ore	
	Birchtree Mine, Thompson/U	..	..	Same	Nickel-copper ore	Placed on standby 1977.
	Pipe Mine, near Thompson/O	..	..	Same	Nickel-copper ore	Underground portions on standby; open-pit production continues.
Sherritt Gordon Mines Limited P.O. Box 28 Commerce Court West Toronto, Ontario M5L 1B1	Fox Mine, near Lynn Lake/U	1970	2 700	Flotation	Copper conc, zinc conc	Copper conc and zinc conc treated at Hudson Bay Mining and Smelting Co., Limited.
	Ruttan Mine, Ruttan Lake/O,U	1973	9 070	Flotation	Copper conc, zinc conc	Underground production started 1979. Copper conc sold to Noranda Sales (1961) Ltd. and Hudson Bay Mining and Smelting Co., Limited; zinc conc sold to Hudson Bay Mining and Smelting Co., Limited.
Tantalum Mining Corporation of Canada Limited Bernic Lake, Manitoba R0E 0G0	Bernic Lake/U	1969	800	Gravity, flotation	Tantalum conc, cesium ore, and rubidium ore	Tantalum conc shipped to USA and European markets. Operations temporarily suspended December 1982.
SASKATCHEWAN						
Amok Ltd. 817-825 - 45th Street West P.O. Box 9204 Saskatoon, Saskatchewan S7K 3X5	Cluff Lake/O	1980	800	Gravity concentration, acid leaching and double precipitation	Magnesia diuranate	Amok operates for Cluff Mining (80% Amok, 20% Saskatchewan Mining Development Corporation). Uranium concentrates (greater than 65% U) are shipped to Eldorado refinery plant in Ontario for conversion.
Eldorado Nuclear Limited Suite 400 - 255 Albert Street Ottawa, Ontario K1P 6A9	Eldorado, Uranium City area/U	1953	1 500	Flotation, base and acid leaching	Sodium diuranate ($Na_2U_2O_7$)	Mine and mill were closed down on June 30, 1982.

Hudson Bay Mining and Smelting Co., Limited P.O. Box 1500 Flin Flon, Manitoba R8A 1N9	Flin Flon Mine/U Flin Flon-Snow Lake area Anderson Lake Mine/U Centennial Mine/U Chisel Lake Mine/U Ghost Lake Mine/U Osborne Lake Mine/U Rod Mine/U Spruce Point Mine/U Stall Lake Mine/U Trout Lake Mine/U West Arm Mine/U White Lake Mine/U	1931	2 000 000 tonnes/yr	Flotation	Copper conc, zinc conc, lead conc	Ore from mines in the Snow Lake area is being treated in the Snow Lake concentrator and ore from company mines in the Flin Flon area is being treated at the Flin Flon Mill. The copper conc are reduced to copper anodes in the company's smelter and refined at Canadian Copper Refiners Limited, Montreal East; zinc conc are smelted and refined in the Flin Flon plant; lead conc are shipped to Cominco Ltd., Trail. Other elements extracted in the refining processes are gold, silver, cadmium, selenium and tellurium.
BRITISH COLUMBIA						
Afton Operating Corporation P.O. Box 937 Kamloops, British Columbia V2C 5N4	Kamloops/O	1977	8 000	Gravity flotation	Copper conc	Copper conc containing gold and silver smelted at mine site to produce blister copper; sold to British Insulated Callendar Cables Ltd. and The Delta Metal Co. of United Kingdom.
Amax of Canada Limited 1600 - 1066 West Hastings Street Vancouver, British Columbia V6E 3X1	Kitsault/O	1981	10 880	Flotation	Molybdenite conc	All molybdenite conc are leached to remove lead for a saleable product.
Brenda Mines Ltd. P.O. Box 420 Peachland, British Columbia V0H 1X0	Brenda Mine, Peachland/O	1970	30 000	Flotation	Copper conc, molybdenum conc	Conc marketed by Noranda Sales Corporation Ltd. of Canada. Copper conc is sold in Canada and molybdenum conc is shipped to Europe for roasting and subsequent sales throughout Europe.
Canada Wide Mines Ltd. (Granduc Division) P.O. Box 190 Stewart, British Columbia V0T 1W0	Granduc Mine, Cassiar District/U	1980	6 000	Flotation	Copper conc with silver and gold by-products	

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
BRITISH COLUMBIA (cont'd)						
Carolin Mines Ltd. 5th Floor 535 Howe Street Vancouver, British Columbia V6C 2C2	Ladner Creek Mine, Hope/U	1981	1 500	Flotation, cyanidation	Gold bullion	
Cominco Ltd. (Copper Division) 200 Granville Street Vancouver, British Columbia V6C 2R2	Jersey Mine, Highland Valley, Ashcroft/O	1962	18 100	Flotation	Copper conc, molybdenum conc	Mine closed early 1983.
Cominco Ltd. Trail, British Columbia V1R 4L8	Sullivan Mine Kimberley/U	1923	9 070	Flotation	Zinc conc, lead conc	Conc shipped to the company's smelter at Trail; the conc contain some silver, antimony, cadmium, bismuth, tin, indium and copper.
Craigmont Mines Limited P.O. Box 49330 Bentall Postal Station Vancouver, British Columbia V7X 1P1	Merritt/U	1961	4 989	Flotation	Copper conc, magnetite conc	Bulk of copper conc shipped to Japan. Magnetite conc sold as reagent to western Canadian coal washing plants.
Dankoe Mines Ltd. 410 - 100 Adelaide Street West Toronto, Ontario M5H 1S3	Utica Mine, Keremeos/U	1967 1976 reopened	408	Flotation	Silver-gold-lead-zinc conc	
David Minerals Ltd. 5th Floor - 535 Howe Street Vancouver, British Columbia V6C 2C2	H.B. Mill, Salmo	Reopened 1982	1 000	Flotation, cyanidation	Gold, silver, molybdenum	Mill acquired from Cominco in 1981. Refurbishment of mill and construction of cyanide plant completed in 1982.
	Ainsworth	Reopened 1979	125	Flotation	Silver, lead, zinc, gold	
	Rossland/U	-	650	Flotation	Molybdenum, gold	Acquired in 1982. Operation remains closed.
Dickenson Mines Limited (Silvana Mines Division) 600 - 65 Queen Street West Toronto, Ontario M5H 2M5	New Denver/U	1970	100	Flotation	Lead-silver, zinc-silver conc	Acquired Carnegie Mining Corporation Limited mill September 1977. Lead and zinc conc shipped to Cominco, Trail, B.C.

Dimac Resource Corp. 701 - 744 West Hastings Street Vancouver, British Columbia V6C 1A5	Clearwater/O	1982	100	Gravity, flotation	Scheelite conc (tungsten)	Plant constructed during 1981 and completed in December. Product sold to U.S.A. Presently open cut plans to go underground.
Du Pont of Canada Exploration Limited 102 - 1550 Alberni Street Vancouver, British Columbia V6G 1A5	Baker Mine, 170 km north of Smithers/U	1981	100	Cyanidation	Gold-silver doré	
Equity Silver Mines Limited P.O. Box 49330 Bentall Postal Station Vancouver, British Columbia V7X 1P1	Houston/O	1980	4 500	Flotation, leaching	Silver-gold-copper conc	
Erickson Gold Mining Corp. 203 - 1209 E - 4th Street Vancouver, British Columbia V7J 1G8	Cassiar	1979	350	Flotation	Gold, silver	First stage expansion completed January 1983 from 100 tonnes per day to 350 tonnes per day.
Gibraltar Mines Limited P.O. Box 49330 Bentall Postal Station Vancouver, British Columbia V7X 1P1	McLeese Lake, Cariboo District/O	1972	36 300	Flotation	Copper conc, molybdenum conc	Bulk of conc shipped to Japan. Production is primarily from Pollyanna pit. Predevelopment of Gibraltar East stage II pit included stripping 8 million yards of overburden and construction of new primary crusher and conveying system.
Highmont Operating Corporation P.O. Box 3000 Logan Lake, British Columbia V0K 1W0	Highland Valley/O	1980	22 686	Flotation	Copper conc, molybdenum conc	Copper conc marketed through Marc Rich. Molybdenum conc marketed through Metallgesellschaft AG.
Lornex Mining Corporation Ltd. P.O. Box 10335 1650 - 609 Granville Street Vancouver, British Columbia V7Y 1G5	Highland Valley/O	1972	80 000	Flotation	Copper conc, molybdenum conc	Approximately half of copper conc shipped on a long term contract to Japan and the other half shipped to short term contracts and spot sales.
Maclaren Forest Products Inc. (Babine Mining Division) P.O. Box 1000 Granisle, British Columbia V6C 1K3	Bell Copper Mine/O Granisle Copper Mine/O Babine Lake	1972 1965	17 000 13 200	Flotation Same	Copper conc	Conc contain minor gold and silver. Bell Mine conc shipped to Noranda, marketed through Noranda Sales (1961) Ltd. of Canada. Granisle Mine conc shipped to Noranda and Germany. Mines were shut down indefinitely in 1982.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
BRITISH COLUMBIA (cont'd)						
Maclaren Forest Products Inc. Boss Mountain Mining Division Hendrix Lake, British Columbia V0K 1R0	Hendrix Lake/U,O	1965 1974 reopened	2 900	Flotation	Molybdenum conc	Production suspended February 15, 1983.
Mosquito Creek Gold Mining Company Limited, The P.O. Box 10 Wells, British Columbia V0K 2R0	Wells/U	1980	100	Cyanidation	Gold and silver	Started mining November 1975. Milling began 1980. Bullion shipped to Royal Canadian Mint, Ottawa.
Newmont Mines Limited 1400 - 750 West Pender Street Vancouver, British Columbia V6C 1K3	Similkameen Div. Princeton/O	1972	20 000	Flotation	Copper conc	Copper conc containing gold and silver shipped to Japan.
Nor-Quest Resources Ltd. 2231-G McGarrigle Road Nanaimo, British Columbia V9S 4M5	Goat Ridge Mine Stewart	1979	100	Flotation	Silver conc	Operations closed.
Northair Mines Ltd. 1450 - 625 Howe Street Vancouver, British Columbia V6C 2T6	Squamish Brandywine area/U	1976	350	Flotation, jigs	Gold-silver bullion, lead conc zinc conc	The bullion is sold to the Royal Canadian Mint, Ottawa; lead conc and zinc conc to Cominco Ltd., Trail, B.C. Mine temporarily closed August 1982.
Placer Development Limited (Endako Mines Division) P.O. Box 49330 Bentall Postal Station Vancouver, British Columbia V7X 1P1	Endako/O	1965	31 000	Flotation	Molybdenite conc, molybdic oxide	Most of the molybdenite conc is roasted to convert to molybdic oxide; both products sold on domestic and foreign markets.
Scottie Gold Mines Ltd. 1450 - 625 Howe Street Vancouver, British Columbia V6C 2T6	Stewart/U	1981	180	Jig concentration, cyanidation	Gold, silver	
Taurus Resources Ltd. 1100 - 235 First Avenue Kamloops, British Columbia V2C 3J4	Taurus Gold Mine Cassiar/U	1981	130	Gold-jib and flotation	Gold	Taurus mines ore from its own underground mine producing jib concentrate and flotation concentrates. The float conc is shipped to the ASARCO Incorporated smelting plant in Helena, Montana.

Teck Corporation 1199 West Hastings Street Vancouver, British Columbia V6E 2K5	Beaverdell Mine/U	1950	100	Flotation	Lead conc, zinc conc	Conc shipped to Cominco Ltd., Trail, British Columbia; gold, silver, lead, zinc, and minor cadmium and copper are contained in the conc. Main product is silver.
Utah Mines Ltd. P.O. Box 370 Port Hardy, British Columbia V0N 2P0	Island Copper Mine, Port Hardy area, Vancouver Island/O	1971	37 200	Flotation	Copper conc, molybdenum conc	For copper conc, existing smelting contracts with Mitsui Mining & Smelting Co. Ltd., Mitsubishi Shoji Kaisha and the Dowa Mining Co., Ltd. call for deliveries of between 84% and 100% of total output of conc. Molybdenum conc shipped to USA and Germany.
Westfrob Mining Division (Falconbridge Limited) 603 - 1112 West Pender Street Vancouver, British Columbia V6E 2S5	Tasu Queen Charlotte Islands/U	1967	650 000 tonnes of conc per year	Magnetic separation, flotation	Magnetite conc, copper conc	Magnetite conc shipped to Japan, Australia and domestic markets; copper conc shipped to Japan.
Westmin Resources Limited (Western Mines Division) Box 49066 904 Four Bentall Centre Vancouver, British Columbia V7X 1C4	Myra Falls, Strathcona Provincial Park, Vancouver Island/U	1967	900	Flotation	Zinc conc, copper conc, lead conc	Zinc and lead conc shipped to Trail, B.C. and USA; copper conc to Japan.
YUKON TERRITORY						
Cyprus Anvil Mining Corporation P.O. Box 1000 Faro, Yukon Territory Y0B 1K0	Rose Creek, Faro/O	1969	11 100	Flotation	Lead conc, zinc conc	Lead and zinc conc shipped to Japan. Mill closed since June 1982, reopening 1985.
Hudson Bay Mining and Smelting Co., Limited, (Whitehorse Copper Mines Division) P.O. Box 28 Toronto Dominion Centre Toronto, Ontario M5K 1B8	Little Chief and Middle Chief Mines, Whitehorse/U	1967 1972 reopened	2 270	Flotation	Copper, silver, gold	Mine closed December 1982.
United Keno Hill Mines Limited P.O. Box 40 Commerce Court West Toronto, Ontario M5L 1B4	Elsa/O,U	1947	450	Flotation, cyanidation	Silver-lead conc, cyanide precipitate	Silver-lead conc shipped to ASARCO Incorporated, East Helena, Montana. Cyanide precipitate reduced to doré at Elsa.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
NORTHWEST TERRITORIES						
Canada Tungsten Mining Corporation Limited 1600 - 1066 West Hastings Street Vancouver, British Columbia V6E 3X1	Tungsten, Northwest Territories/U	1962 1967 reopened	1 000	Gravity, flotation	Scheelite (tungsten) conc, copper conc	Increased mill capacity 1979. Scheelite conc shipped mainly to USA, Europe and Japan.
Cominco Ltd. Yellowknife, Northwest Territories X0E 1H0	Con and Rycon Mines, Yellowknife/U	1938	590	Cyanidation	Gold bullion	Ore from the Con mine is treated in the Con mill; gold bullion bars produced are shipped to the Royal Canadian Mint, Ottawa, for refining. Arsenic refined from waste piles on mine site.
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Polaris Mine/U	1981	2 000	Flotation	Lead and zinc conc	Milling started in 1981 with commercial production being achieved early in 1982. Conc are shipped to European smelters.
Cullaton Lake Gold Mines Ltd. 65 Queen Street West Suite 705 Toronto, Ontario M5H 2M5	Cullaton Lake Gold Mine, Keewatin District/U	1982	108 000 tonnes/yr	Cyanidation	Gold bullion	In May 1982, Camchib Resources Inc. assumed the management of Cullaton Lake Gold Mines Ltd. Substantial efficiencies have been achieved in all facets of the mining operation. Attained commercial production status on January 1, 1983.
Echo Bay Mines Ltd. 500 - 10909 Jasper Avenue Pacific Plaza Edmonton, Alberta T5J 3L9	Port Radium	1964	136	Gravity, flotation	Silver conc	Ceased operations March 1982.
	Contwoyto Lake		907	Cyanidation	Gold bullion	Milling commenced April 1982. Commercial production October 1982. Expansion to 1 089 tonnes per day in progress.
Giant Yellowknife Mines Limited P.O. Box 40 Commerce Court West Toronto, Ontario	Giant Mine, Yellowknife/U,O	1948	1 100	Flotation, roasting, cyanidation	Gold bullion	Gold bullion bars shipped to the Royal Canadian Mint, Ottawa, for refining.

	Lolor Mine/U	..	..	Same	Gold ore	Gold ore from both Lolor and Supercrest is mined through extensions of the Giant underground workings and treated at the Giant mill.
	Supercrest Mine/U	..	..	Same	Gold ore	
Nanisivik Mines Ltd. c/o Strathcona Mineral Services Limited 401 - 44 Victoria Street Toronto, Ontario M5C 1Y2	Nanisivik, Baffin Island, Northwest Territories/U	1976	2 000	Flotation	Lead conc, zinc conc	Lead and zinc conc shipped to Europe.
Pine Point Mines Limited Pine Point, Northwest Territories X0E 0W0	Pine Point/O	1965	10 000	Flotation	Zinc conc, lead conc	Conc shipped to Trail smelter, Japan, and Europe.
Terra Mines Ltd. 202, 7608 - 103rd Street Edmonton, Alberta T6E 4Z8	Camsell River, Great Bear Lake/U	1969	200	Gravity, flotation	High-grade silver, jig conc, bulk silver-copper float conc	All conc shipped to the smelters of Cominco Ltd. in Trail, British Columbia.

INDUSTRIAL MINERAL MINES AND PROCESSING PLANTS

NEWFOUNDLAND

Advocate Mines Limited P.O. Box 174 Royal Trust Tower Toronto-Dominion Centre Toronto, Ontario M5K 1H6	Baie Verte, White Bay District/O	1963	225	Dry milling	Chrysotile asbestos	Mine closed December 1981.
ASARCO Incorporated Buchans Unit Buchans, Newfoundland A0H 1G0	Buchans, Grand Falls District	1981	350	Flotation	Barite conc	Shipped to St. John's, Newfoundland.
Atlantic Gypsum Limited P.O. Box 61 Corner Brook, Newfoundland A2H 6C3	Corner Brook	1952	200	Crushing, calcining	Gypsum, plaster and wallboard	Gypsum from Flintkote Holdings Limited at Flat Bay is used in the manufacture of wallboard and plaster; subsidiary of Lundrigans Limited.
Baroid of Canada, Ltd. 840 - 7th Avenue Southwest Calgary, Alberta T2P 3G2	Buchans	1981	15 000 tonnes/yr	Grinding, sizing	Barite	

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
NEWFOUNDLAND (cont'd)						
Dunville Mining Company Limited c/o ERCO Industries Limited Long Harbour, Newfoundland A0B 2J0	Villa Marie, Placentia Bay/O	1968	1 360	Crushing and wet screening	Silica	Shipped to ERCO Industries Limited, Long Harbour, Placentia Bay for use in manufacturing elemental phosphorus.
Flintkote Holdings Limited R.R. #1 P.O. Box 38 St. Georges, Newfoundland A0N 1Z0	Flat Bay/O	1962 1983	4 535 16 000	Crushing Washing, screening	Gypsum Gypsum	Crushed gypsum is shipped to domestic and USA markets.
Newfoundland Minerals Limited P.O. Box 98 Manuels, Newfoundland A0A 2Y0	Long Pond, Manuels/O	1956	..	Crushing	Pyrophyllite	Shipped to American Olean Tile Company, Inc., Lansdale, Pa. for use in manufacture of ceramic tile.
North Star Cement Limited P.O. Box 160 Corner Brook, Newfoundland A2H 6C7	Corner Brook/O	1952	140 000 tonnes/year	Dry process	Cement	
NOVA SCOTIA						
Canada Cement Lafarge Ltd. P.O. Box 490, Station 'B' Montreal, Quebec H3B 3K3	Brookfield Plant No. 6/O	1965 1978 new kiln	485 000 tonnes/year	Dry process	Cement	
Canadian Salt Company, Limited, The 4 Robert Speck Parkway Suite 850 Mississauga, Ontario L4Z 1S1	Pugwash/U	1959	400 tonnes/hr	Crushing, screening, quadruple-effect vacuum pan evaporation	Rock salt	
	Pugwash	1963	326		Salt	Brine made from mined rock salt used to produce fine evaporated salt.
Domtar Inc. Sifto Salt Division 1136 Matheson Boulevard Mississauga, Ontario L4W 2V4	Amherst (Nappan)/S	1947	8 300 tonnes/month	Triple- and quadruple-effect vacuum pan evaporation	Salt	Fine salt production.

Domtar Inc. Domtar Construction Materials Division 2001 University Avenue Montreal, Quebec H3C 3K4	McKay Settlement/O	1890	110	Crushing, calcining	Gypsum, plaster	Gypsum is trucked to the company's plant at Windsor, a distance of 19 km, for calcining.
Esso Petroleum Canada Refining Department 55 St. Clair Avenue West Toronto, Ontario M5W 1K3	Dartmouth	1966	79	Oil refining	Sulphur	
Fundy Gypsum Company Limited P.O. Box 400 Windsor, Nova Scotia B0N 2T0	Miller's Creek/O	1957	..	Crushing	Gypsum	Crude gypsum is shipped to USA.
	Wentworth/O	1933		Crushing, heavy-media separation	Gypsum and anhydrite	Gypsum and anhydrite are shipped to USA.
Georgia-Pacific Corporation (Gypsum Division) P.O. Box 400 Port Hawkesbury, Nova Scotia B0E 2V0	River Denys/O	1962	4 000 8-hr shift	Crushing	Gypsum	Crude gypsum is shipped to USA.
Little Narrows Gypsum Company Limited 790 Bay Street Toronto, Ontario M5G 1N8	Little Narrows/O	1934	2 700 8-hr shift	Crushing	Gypsum	Crude gypsum is shipped to domestic markets in Quebec and Ontario, and is also exported to USA.
National Gypsum (Canada) Ltd. P.O. Box 637 Dartmouth, Nova Scotia B2Y 3Y9	Milford Station/O	1955	9 070 8-hr shift	Crushing	Gypsum	Crude gypsum is shipped to customers in Canada and USA.
Nova Scotia Sand and Gravel Limited Division of L.E. Shaw, Limited P.O. Box 60 Shubenacadie, Hants Co. Nova Scotia B0N 2H0	Shubenacadie	1954	1 000	Wash and screen	Silica sand	Silica sand extracted from a pit 11 km from washplant and trucked to same.
Nystone Chemicals Ltd. P.O. Box 69 Debert Industrial Park Debert, Nova Scotia B0M 1G0	Mine - Brookfield Plant - Debert	1980	6	Beneficiation, fine grinding	Barium sulphate	High purity barium sulphate is produced from the Brookfield ore by wet tabling, magnetic separation, acid washing, fine grinding and drying.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
NOVA SCOTIA (cont'd)						
Scotia Limestone Limited P.O. Box 457 Sydney, Nova Scotia B1P 6H4	Irish Cove/O	1965	1 996	Crushing	Limestone	Flux for Sydney Steel Corporation. Did not produce in 1982.
	Frenchvale/O	1965	1 996	Crushing	Dolomite	Flux for Sydney Steel Corporation. Depleted in 1982.
	Kelly Cove/O	1982		Crushing	Dolomite	Flux trucked to Sydney Steel Corporation. Did not produce in 1982.
NEW BRUNSWICK						
Avon Aggregates Ltd. P.O. Box 460 Minto, New Brunswick E0E 1J0	Minto/O	1972	54 000 tonnes/yr	Expanding	Lightweight aggregate (Expanded shale)	Product marketed in the Maritimes, northern New England and eastern Quebec.
Canada Cement Lafarge Ltd. P.O. Box 490, Station 'B' Montreal, Quebec H3B 3K3	Havelock, Plant No. 2/O	1951	315 000 tonnes/yr	Dry process	Cement	
Chaleur Silica Ltd. P.O. Box 4, Site 4 Petit Rocher North, New Brunswick E0B 2E0	Petit Rocher	1976	150 000 tonnes/yr	Crushing	Silica	Silica grit, foundry and sandblasting sand marketed in Maritimes and Quebec.
QUEBEC						
Armand Sicotte & Sons Limited 1950 Boul. Sir Wilfred Laurier St-Hubert, Quebec J4T 2E7	Ste-Clotilde Chateauguay County/O	1979	1 000	Crushing	Silica	Product sold to a chemical company, cement plants and ferromanganese plants.
Asbestos Corporation Limited P.O. Box 9 Thetford Mines, Quebec G6G 5S1	British Canadian Mine, Black Lake/O Mill No. 1	1882	7 500	Grinding, drying and dry milling	Chrysotile asbestos	All milling plants of the company extract fibre from ore by crushing, screening and aspiration; asbestos fibre is graded as to length and quality.
	Mill No. 2	1954	10 000	Grinding, drying and dry milling	Chrysotile asbestos	Mill inactive since January 1, 1982.

	King-Beaver Mine, Thetford Mines/U /O	1930 1968	4 200 9 500	Grinding and drying	Chrysotile asbestos	Ore is crushed and dried at King Beaver. Underground ore is treated at British Canadian Mills. Open pit ore is treated at Normandie Mill.
	Normandie Mill	1955	7 500	Dry milling	Chrysotile asbestos	
	Asbestos Hill, Ungava Bay Quebec North/O	1972	4 430 conc	Grinding, drying and concentration by dry milling	Chrysotile asbestos	Ore is crushed and dried and then transported by boat to a mill at Nordenham, West Germany where it is treated.
Bakertalc Inc. 400 - 621 St-Antoine Street West Montreal, Quebec H3C 1A2	Van Reet Mine, South Bolton Potton Twp./U	1938 current mill 1970	130	Grinding, flotation, micronizing	Talc, soapstone	Ore is milled at Highwater, 24 km from the mine; classified ground talc is shipped to consumers across Canada and the USA. Higher grades of talc used in papers, paint and plastics; soapstone sold in block for sculpturing.
Baskatong Quartz Inc. P.O. Box 337 Station N.D.G. Montreal, Quebec H4A 3P6	Petit lac Malbaie Chalevoix County/O	1975	1 360	Crushing, sizing	Quartz	Product sold for manufacture of silicon metal.
	St. Ludger Frontenac County	1981	1 000	Crushing, sizing	Quartz	Product sold for manufacture of silicon metal.
Bell Asbestos Mines, Ltd. P.O. Box 99 Thetford Mines, Quebec G6G 5S4	Thetford Mines/U,O	1878	4 000	Dry milling	Chrysotile asbestos	Fibre is extracted from ore by crushing, screening and aspiration; asbestos fibre is graded as to length and quality.
B.S.Q. Talc Inc. St.-Pierre-de-Broughton, Quebec G0N 1T0	St.-Pierre-de-Broughton/O	1934	200	Grinding, sizing	Talc, soapstone	Separate quarries for talc and soapstone; talc is classified and shipped to consumers; soapstone is sawn into metal workers' crayons and blocks for sculpturing and refractory use.
Canada Cement Lafarge Ltd. P.O. Box 490, Station 'B' Montreal, Quebec H3B 3K3	St. Constant Plant No. 7/O	1966 1975 new kiln	955 000 tonnes/yr	Dry process	Cement	

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
QUEBEC (cont'd)						
CGC Inc. 790 Bay Street Toronto, Ontario M5G 1N8	Montréal	1954	400	Grinding, calcining	Wallboard and plaster	Crude gypsum for the plant is shipped from Nova Scotia.
Carey Canada Inc. P.O. Box 190 East Broughton Station, Quebec G0N 1H0	East Broughton Twp./O	1958	8 800	Dry milling	Chrysotile asbestos	The fibre is extracted from ore by crushing, screening, and aspiration; asbestos fibre is graded as to length and quality.
Ciment Quebec Inc. St-Basile-de-Portneuf, Quebec G0A 3G0	St-Basile-de-Portneuf/O	1951	2 500	Dry process	Cement	
Domtar Inc. Domtar Construction Materials Division 2001 University Avenue Montreal, Quebec H3C 3K4	Montreal East	1925	360	Grinding, calcining	Wallboard and plaster	Crude gypsum for the plant is obtained from Nova Scotia and Newfoundland.
Dresser Canada, Inc. (Canadian Refractories Division) 4 Place Ville Marie Montreal, Quebec H3B 2E7	Kilmar/U,O	1918	1 180	Crushing, heavy-media beneficiation, sintering	Dolomitic magnesite clinker	Clinker of blended ores is shipped to the company's plant at Marelan for manufacture into refractory products. In 1918 original mill started; 1977 new crushing plant completed; 1978 new larger capacity rotary kiln No. 6.
Ensio Industries Inc. 1079 Chambly Street Room 206 Longueuil, Quebec J4H 3M7	Varennes	1970	326	Drying, crushing, sizing, blending	Chromite foundry sand, blast grit products (sand blasting)	
F. Hyde & Company Limited 2587 Côte de Liesse Montreal, Quebec H4N 2M8	Montreal	1938	40	Exfoliating	Lightweight aggregate (vermiculite)	
Independent Cement Inc. 966 Des Prairies Road P.O. Box 480 Joliette, Quebec J6E 6H7	Joliette/O	1966	1 082 000 tonnes/yr	Dry process	Cement	

Indusmin Limited (Quebec Silica Division) 365 Bloor Street East Toronto, Ontario M4W 1H7	St-Canut/O	1954	1 800	Crushing, grinding, classifying	Silica	Silica is shipped from St-Donat-de-Montcalm to St-Canut for processing into various products.
	St-Donat-de-Montcalm/O	1955	1 080	Crushing, grinding, classifying, washing	Silica	
Johns-Manville Canada Inc. P.O. Box 1500 Asbestos, Quebec J1T 3N2	Jeffery Mine, Asbestos/O	1882	631 250 tonnes/yr	Dry milling	Chrysotile asbestos	The fibre is extracted from ore by crushing, screening and aspiration; asbestos fibre is graded as to length and quality.
Lac d'Amiante du Quebec, Ltée (Black Lake Division) Black Lake, Quebec G0N 1A0	Black Lake/O	1958	14 200	Dry milling	Chrysotile asbestos	The fibre is extracted from ore by crushing, screening and aspiration; asbestos fibre is graded as to length and quality.
Lac d'Amiante du Quebec, Ltée (National Mines Division) Black Lake, Quebec G0N 1A0	Thetford Mines/O	1958	6 900	Dry milling	Chrysotile asbestos	
Marietta Resources International Ltd. (Société Mineralurgique Laviolette, Inc.) 1475 Graham Bell Boucherville, Quebec J4B 6A1	Mine - Lac Letondal/O Plant - Boucherville	1977	160	Dry grinding, pneumatic separation, screening	Suzorite mica conc	Powder or dry ground mica and surface treated grade for plastic.
Masonite Canada Inc. Acoustic Products Division Gatineau, Quebec J8P 6K3	Gatineau	1972	36	Expanding	Lightweight aggregate (perlite)	Aggregate used in the manufacture of company products.
Miron Inc. 2201 Cremazie Blvd. East Montreal, Quebec H1Z 2C1	Montreal/O	1960	1 000 000 tonnes/yr	Dry process	Cement	
Montreal Silica Mines Ltd. 500 Place Crémazie Suite 317 Montreal, Quebec H2P 2S9	Dumas Twp., Ormstown/O	1977	600	Washing, drying, screening	Silica sand	Silica sand, to foundries; fibre-glass, window-glass, sand blasting and also to serve as fill.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
QUEBEC (cont'd)						
NL Chem Canada Inc. Box 5800 Varennes, Quebec J0L 2P0	Varennes	1957	100	Sulphate treatment of titania	Titanium dioxide pigments	Ilmenite is mined at Lac Tio, Saguenay County; smelter treatment at Sorel yields titania slag that is shipped to Varennes where chemical manufacturing methods produce titanium dioxide pigments.
Perlite Industries Inc. 500 Canal Bank Ville Saint-Pierre, Quebec H8R 1H4	Ville Saint-Pierre	1949	32	Expanding	Lightweight aggregate (perlite)	Aggregate marketed for industrial and agricultural use.
St. Lawrence Cement Inc. P.O. Box 1156 Quebec, Quebec G1K 7C9	Beauport	1954	1 940	Wet process	Cement	
Sulconam Inc. 11450 Cherrier Street Montreal East, Quebec H1B 1A6	Montreal East	1958	305	Refining	Sulphur	Formerly Laurentide Chemicals & Sulphur Ltd. Feedstock obtained from six nearby petroleum refineries. Sulphur produced by modified Claus process. Plant has pollution control facility.
Tioxide Canada Inc. P.O. Box 580 Sorel, Quebec J3P 5P8	Tracy	1962	33 100 tonnes/yr	Sulphate treatment of titania slag	Titanium dioxide pigment	Chemical plant manufactures titanium dioxide pigments from titania slag produced at Sorel by QIT-Fer et Titane Inc.
Union Carbide Canada Limited 123 Eglinton Avenue East Toronto, Ontario M4P 1J3	Melocheville/O	1945	1 360 per 8 hr day when operating	Crushing, sizing	Silica	Sized sandstone shipped to company plant manufacturing ferrosilicon. Plant has not been in production since 1977.
V.I.L. Vermiculite Inc. 1775 - 52nd Avenue Lachine, Quebec H8T 2Y1	Lachine	1960	..	Exfoliating	Insulation and lightweight aggregate (vermiculite)	

Westroc Industries Limited 2650 Lakeshore Highway Mississauga, Ontario L5J 1K4	Ste-Catherine d'Alexandrie	1973	600	Crushing, calcining	Plaster, wallboard	Crude gypsum is obtained from Nova Scotia.
ONTARIO						
Canada Cement Lafarge Ltd. P.O. Box 490, Station 'B' Montreal, Quebec H3B 3K3	Woodstock, Plant No. 4/O	1956	535 000 tonnes/yr	Wet process	Cement	
	Bath Plant No. 9/O	1973	1 000 000 tonnes/yr	Dry process	Cement	
Canada Talc Industries Limited Madoc, Ontario K0K 2K0	Madoc/O	1916	70	Crushing, grinding, sizing	Talc, dolomite	High-quality talc suitable as a filler material in paint, plastics, fertilizers, and building products. Dolomite chips for the terrazzo market.
CGC Inc. 790 Bay Street Toronto, Ontario M5G 1N8	Hagersville/U	1931	1 200	Crushing, calcining	Gypsum, plaster, wallboard	Gypsum is used for manufacture of plaster and wallboard at the company's plant at Hagersville.
	Hagersville	..	..	Expanding	Lightweight aggregate (perlite)	Prepared for use in gypsum products.
Canadian Salt Company Limited, The 4 Robert Speck Parkway Suite 850 Mississauga, Ontario L4Z 1S1	Ojibway/U	1955	500 per hr	Crushing, screening	Rock salt	Salt is graded and prepared for markets.
	Windsor/S	1892	450	Triple-effect vacuum pan evaporation, fusion	Salt	
Domtar Inc. Domtar Chemicals Group 1136 Matheson Boulevard Mississauga, Ontario L4W 2V4	Goderich/S	1872	9 500 tonnes/ month	Quadruple-effect vacuum pan evaporation	Salt	
	Goderich/U	1959	3 500 000 tonnes/yr	Crushing, screening	Salt	
Domtar Inc. Domtar Construction Materials Gypsum Division P.O. Box 250 Caledonia, Ontario N0A 1A0	Caledonia/U	1910 1980	1 100	Crushing, calcining	Gypsum	Gypsum is used for the manufacture of plaster and wallboard at the company's plant at Caledonia.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
ONTARIO (cont'd)						
Esso Petroleum Canada Refining Department 55 St. Clair Avenue West Toronto, Ontario M5W 1K3	Sarnia	1964/68	100	Oil refining	Sulphur	
Extender Minerals of Canada Limited 6365 Northwest Drive Mississauga, Ontario L4V 1J8	Mine - Yarrow Twp./O Mill - Powell Twp. Matachewan Mine - Foleyet Mine - Cairo Twp.	1974	20 000 tonnes/yr	Crushing, grinding, screening	Barite	
Gulf Canada Limited P.O. Box 460 Station "A" Toronto, Ontario M5W 1E5	Mississauga	1964	48	Oil refining	Sulphur	
Hedman Resources Limited P.O. Box 590 Timmins, Ontario P4N 7E7	Mine - Munro and Warden Twps./O Plant - Bowman Twp., Matheson	1969	270	..	Serpentine filler	The company has not yet reached full production.
IMC Industry Group (Canada) Ltd. P.O. Box 280 Havelock, Ontario K0L 1Z0	Blue Mountain, Havelock/O	1956	1 000	Crushing, magnetic separation, sizing	Nepheline syenite	Mill operates 3 shifts a day, 6 days a week; produces variety of products based on mesh size and iron content for many industrial uses.
Indusmin Limited (Ontario Silica Division) 365 Bloor Street East Suite 200 Toronto, Ontario M4W 3L4	Killarney/O (Badgeley Island)	1970	3 629	Crushing, screening, washing	Silica	Operations shut down July 1982.
	Midland/O	1970	1 270	Dry milling	Silica	Silica sand and flour.
(Nepheline Syenite Division)	Nephton/O	1936	1 360	Crushing, magnetic separation, sizing, fine grinding	Nepheline syenite	Mill operates 3 shifts a day, 7 days a week, producing several grades of nepheline syenite to meet a wide variety of markets.
Lake Ontario Cement Limited P.O. Box 620 Picton, Ontario K0K 2T0	Picton/O	1958	1 497 000 tonnes/yr	Dry process	Cement	

National Slag Limited 139 Windermere Road Hamilton, Ontario L8H 3Y2	Hamilton	1954	760 m^3	Expanding	Lightweight aggregate (expanded slag)	Aggregate used in the production of concrete blocks and ready-mix concrete and for the manufacture of cementitious hydraulic slag.
St. Lawrence Cement Inc. 2391 Lakeshore Road West Mississauga, Ontario L5J 1K1	Mississauga/O	1956	2 000 000 tonnes/yr	Wet and dry process	Cement	
St. Marys Cement Limited (St. Marys Cement Company Division) 2200 Yonge Street Toronto, Ontario M4S 2C6	St. Marys/O	1912	991 000 tonnes/yr	Wet and dry process	Cement	
	Bowmanville/O	1968	602 000 tonnes/yr	Wet process	Cement	
Shell Canada Limited 505 University Avenue Toronto, Ontario M5G 1X4	Corunna	1966	33 lt/d	Oil refining	Sulphur	Hydrogen sulphide in refinery gases is removed by absorption in an amine solution. Sulphur is produced by the modified Claus process.
	Oakville	1963	50 lt/d	Oil refining	Sulphur	
Steep Rock Resources Inc. 40 University Avenue Suite 710 Toronto, Ontario M5J 2G5	Bathurst Township, near Perth	1978 expanded 1983	150 000 tonnes/yr (calcite products)	Crushing, dry grinding, air classifying	Crushed and pulverized calcite products	Aggregates, screen separator products, and fine and medium fine ground products shipped to Canadian and U.S.A. markets.
Steetley Talc Limited P.O. Box 1245 Timmins, Ontario P4N 7J5	Mine - Penhorwood Twp. 72 km SW of Timmins Plant - Timmins	1976	27 000 tonnes/yr	Crushing, flotation drying, grinding	Talc	Used in pulp and paper, paint, plastics, rubber and cosmetic/toiletry industries.
3M Canada Inc. (I.M.P. Division) P.O. Box 160 Havelock, Ontario K0L 1Z0	Havelock/O	1925	160/hr	Crushing, sizing, colouring	Traprock, roofing granules, commercial aggregates and fillers	
V.I.L. Vermiculite Inc. 310 Humberline Drive Rexdale, Ontario M9W 5S2	Rexdale	1975	..	Exfoliating	Insulation and lightweight aggregate (vermiculite)	
Westroc Industries Limited 2650 Lakeshore Highway Mississauga, Ontario L5J 1K4	Drumbo/U	1978	1 587	Crushing	Gypsum	Mining commenced December 1978.
	Mississauga, Peel County	1963	685	Crushing, calcining	Plaster and wallboard	Crude gypsum obtained from Ontario sources.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
ONTARIO (cont'd)						
W.R. Grace & Co. of Canada Ltd. (Construction Products Division) 294 Clements Road West Ajax, Ontario L1S 3C6	Ajax	1973	12 000 tonnes/yr	Expanding	Lightweight aggregate (vermiculite)	Perlite aggregate used for cryogenic insulation, plaster aggregate and horticultural and industrial purposes. Vermiculite aggregate used for loose insulating, horticultural products, industrial vermiculite and fireproofing.
	Ajax	1978	6 000 tonnes/yr	Expanding	Perlite aggregate	
	St. Thomas	1954	4 000 tonnes/yr	Exfoliating	Lightweight aggregate (vermiculite)	
	Ajax	1981	6 000 tonnes/yr	Expanding	Perlite aggregate	
MANITOBA						
Canada Cement Lafarge Ltd. P.O. Box 490, Station 'B' Montreal, Quebec H3B 3K3	Fort Whyte, near Winnipeg Plant No. 13	1911	565 000 tonnes/yr	Wet process	Cement	
	Steep Rock/O Plant No. 13A	..	907 200	Quarrying	Limestone	Handled by train to Plant No. 13 at Fort Whyte.
Domtar Inc. Domtar Construction Materials Division 1403 Sargent Street Winnipeg, Manitoba R3E 0G6	Gypsumville/O	..	..	Crushing	Gypsum	Gypsum is shipped to company plants at Winnipeg.
	Winnipeg	1904	260	Crushing, calcining	Plaster and wallboard	
Genstar Cement Limited Box 249, Station 'C' Winnipeg, Manitoba R3M 3T2	Winnipeg/O	1965	310 000 tonnes/yr	Wet process	Cement	
	Mafeking		2 040		Limestone	Limestone is used in the production of Portland cements by Genstar Cement Limited.
Kildonan Concrete Products Ltd. 221 Panet Road Winnipeg, Manitoba R2J 0S4	Winnipeg/O	1955	210 m^3	Expanding	Lightweight aggregate (expanded clay)	Clay is mined and processed on site.

Pembina Mountain Clays Incorporated 945 Logan Avenue Winnipeg, Manitoba R3E 1P3	Morden and Winnipeg/O	1940	..	Pulverizing, bleaching	Bentonite	Clay is mined and pulverized at Morden; the company's leaching plant in Winnipeg produces activated bleaching clay.
Steel Brothers Canada Ltd. 1325 Ellice Avenue Winnipeg, Manitoba R3G 0G1	Selkirk	1956	450	Drying, screening, and blending	Silica sand	Open pit operates from late May until late October. The sandstone is barged to the company's processing plant at Selkirk.
	Black Island, Lake Winnipeg/O	1956	1 500	Washing, attrition	Silica sand	
Westroc Industries Limited 2650 Lakeshore Highway Mississauga, Ontario L5J 1K4	Amaranth	1978	770	Crushing	Gypsum	Crude gypsum is shipped to the Company's calcining plant in Winnipeg and to other customers for use in the manufacture of gypsum products.
	Winnipeg	1930	270	Crushing, calcining	Plaster and wallboard	
W.R. Grace & Co. of Canada Ltd. (Construction Products Division) 294 Clements Road West Ajax, Ontario L1S 3C6	Winnipeg	1976	6 000	Expanding	Lightweight aggregate (vermiculite)	Aggregate used for loose insulating, horticultural products, industrial vermiculite and fireproofing.
SASKATCHEWAN						
Avonlea Mineral Industries Ltd. Suite 204 - 4401 Albert Street Regina, Saskatchewan S4S 6B6	Wilcox/O	1978	250	Drying, grinding, sizing	Sodium bentonite	Bentonite products prepared for iron ore pelletizing and foundry industries, oil well and water-well diamond drilling also civil engineering applications including slurry-wall, trenching and soil sealants. Quarry operates during summer months only.
Canada Cement Lafarge Ltd. P.O. Box 490, Station 'B' Montreal, Quebec H3B 3K3	Floral, Saskatoon Plant No. 10	1966	200 000 tonnes/yr	Grinding only	Cement	
Canadian Salt Company Limited, The 4 Robert Speck Parkway Suite 850 Mississauga, Ontario L4Z 1S1	Regina	1969	450	Filtering and drying	Salt	Plant utilizes sodium chloride produced at nearby potash solution mine of PPG Industries Canada Ltd.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
SASKATCHEWAN (cont'd)						
Central Canada Potash Division of Noranda Mines Limited P.O. Box 1500 Colonsay, Saskatchewan S0K 0Z0	Colonsay/U	1969	1 270 000 tonnes/yr	Crushing, flotation	Potash	Two grades of muriate of potash (KCl) are produced; coarse and granular.
Cindercrete Products Limited P.O. Box 306 Regina, Saskatchewan S4P 3A1	Regina/O	1961	300	Expanding	Lightweight aggregate (expanded clay)	Aggregate used in ready-mix concrete, concrete blocks and pre-cast shapes.
Cominco Ltd. (Potash Operations) Vanscoy, Saskatchewan S0L 3J0	Vanscoy/U	1969 1972 reopened	1 088 600 tonnes/yr	Crushing, flotation	Potash	Three grades of potash are produced: standard, coarse and granular.
Domtar Inc. Sifto Salt Division 1136 Matheson Boulevard Mississauga, Ontario L4W 2V4	Unity/S	1949	500	Triple-effect vacuum pan evaporation	Salt	
Francana Minerals Division of Hudson Bay Mining & Smelting Co., Limited 670 Bank of Canada Building Regina, Saskatchewan S4P 0N3	Cabri (Grant Station)	1968	6 000 tonnes/yr	Dehydration, refining	Sodium sulphate (detergent grade)	
	Alsask (Hardene Station)	1974	4 000 tonnes/yr	Dehydration	Sodium sulphate (salt cake grade)	
Genstar Cement Limited P.O. Box 767 Victoria Plains Regina, Saskatchewan S4P 3A8	Regina/O	1956	204 000 tonnes/yr	Dry process	Cement	
Genstar Gypsum Limited 901 College Plaza Edmonton, Alberta T6G 2C8	Saskatoon	1967	500	Crushing, calcining	Wallboard	Crude gypsum is obtained from the mine of Westroc Industries Limited near Windermere, British Columbia.
International Minerals & Chemical Corporation (Canada) Limited Esterhazy, Saskatchewan S0A 0X0	K-1 Mine, Esterhazy/U	1962	5 500 (KCl)	Crushing, flotation heavy media	Potash	Five grades of muriate of potash are produced.
	K-2 Mine, Esterhazy/U	1967	6 040 (KCl)	Crushing, flotation heavy media	Potash	Six grades of muriate of potash are produced.

Kalium Chemicals A Division of PPG Industries Canada Ltd. 400 Bank of Canada Building Regina, Saskatchewan S4P 0M9	Belle Plaine, near Moose Jaw/S	1964	1 430 000 tonnes/yr	Multiple-effect evaporation	Potash	Potash-rich solution is evaporated and crystallized to produce four potash grades.
Midwest Chemicals Limited P.O. Box 66 Edmonton, Alberta T5J 2G9	Palo/O	1936	450	Submerged combustion and drying	Sodium sulphate (salt cake)	
Ormiston Mining and Smelting Co. Ltd. 502 Scott Block Moose Jaw, Saskatchewan S6H 0B9	Ormiston	1930	270	Submerged combustion and drying	Sodium sulphate (salt cake)	
Potash Company of America (Division of Ideal Basic Industries, Inc.) P.O. Box 509 Saskatoon, Saskatchewan S7K 3L6	Saskatoon/U	1965	1 047 000 KCl tonnes/yr	Crushing, flotation	Potash	Three grades of muriate of potash (KCl) are produced from the flotation circuit and one grade from a crystallizer circuit.
Potash Corporation of Saskatchewan Mining Limited (PCSML) (Allan Division) Allan, Saskatchewan S0K 0C0	Allan/U	1968	3 760 (KCl)	Crushing, flotation	Potash	Four grades of muriate of potash (KCl) are produced from the flotation circuit and two grades from a crystallizer circuit.
Potash Corporation of Saskatchewan Mining Limited Cory Division P.O. Box 1320 Saskatoon, Saskatchewan S7K 3N9	Saskatoon/U	1968	408 tonnes/hr	Crushing, flotation	Potash	Four grades of potash (KCl) are produced from the flotation circuit and two grades from a crystallizer circuit.
Potash Corporation of Saskatchewan Mining Limited Lanigan Division P.O. Box 3100 Lanigan, Saskatchewan S0K 2M0	Lanigan/U	1968	453 tonnes/hr	Crushing, flotation, screening	Potash	Coarse and granular muriate of potash (KCl) are produced as well as some standard.
Potash Corporation of Saskatchewan Mining Limited Rocanville, Saskatchewan S0A 3L0	Rocanville/U	1970	12 000	Flotation	Potash	Four grades of potash.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
SASKATCHEWAN (cont'd)						
Saskatchewan Minerals (Sodium Sulphate Division) Chaplin, Saskatchewan S0H 0V0	Chaplin/O	1948	500	Brine evaporation	Sodium sulphate (salt cake)	
	Ingebrigt/O	1967	500	Submerged combustion and drying	Sodium sulphate (salt cake) detergent grade	
	Bishopric/O	1974 reopened	360	Brine evaporation	Sodium sulphate (salt cake)	Closed in June 1977. Reopened March 1980. Closed January 1983.
	Sybouts/O	1941	136	Brine evaporation	Sodium sulphate (salt cake)	Purchased from Sybouts Sodium Sulphate Co., Ltd. September 1981. Reopened June 1982. To close May 1983.
ALBERTA						
Alberta Sulphate Limited 701 Imperial Bank Building Edmonton, Alberta T5J 1P6	Horseshoe Lake, Metiskow/U	1969	54 400 tonnes/yr	Solution recovery, evaporation	Sodium sulphate (detergent grade)	
Amerada Minerals Corporation of Canada Ltd. 540 - 5th Avenue South West Calgary, Alberta T2P 0M3	Olds	1964	610	Processing	Sulphur	Hydrogen sulphide is removed from natural gas by diethanolamine absorption. Sulphur is produced by modified Claus process.
Amoco Canada Petroleum Company Ltd. 444 - 7th Avenue South West Calgary, Alberta T2P 0X8	Bigstone, Fox Creek	1968	323	Processing	Sulphur	Hydrogen sulphide is removed from natural gas by sulfinol absorption; sulphur is produced by the modified Claus process.
	Crossfield	1968	1 626	Processing	Sulphur	
	Whitecourt	1962	1 290	Processing	Sulphur	Hydrogen sulphide is removed from natural gas by diethanolamine absorption: sulphur is produced by a modified Claus process.
Baroid of Canada, Ltd. 1500 - 840 - 7th Avenue South West Calgary, Alberta T2P 3G2	Onoway/O	1960	90 200	Grinding, sizing	Bentonite and barite	

Baymag Mines Co. Limited 634 Royal Trust Tower Edmonton Centre Edmonton, Alberta T5J 2Z2	Exshaw	1982	240	Crushing, calcining, grinding	Calcined magnesite	Only MgO producer in Canada.
Canada Cement Lafarge Ltd. P.O. Box 490, Station 'B' Montreal, Quebec H3B 3K3	Exshaw, Plant No. 12/0	1909 1981	1 230 000 tonnes/yr	Dry process	Cement	
	Cloverbar, Edmonton Plant No. 11	1955	200 000 tonnes/yr	Grinding	Cement	
Canadian Occidental Petroleum Ltd. 1600, 700 - 4th Avenue South West Calgary, Alberta T2P 3J5	Crossfield, Balzac	1961	1 700	Processing	Sulphur	Hydrogen sulphide is removed by DEA absorption. Sulphur is produced by modified Claus process.
Canadian Salt Company Limited, The 4 Robert Speck Parkway Suite 850 Mississauga, Ontario L4Z 1S1	Lindbergh/S	1948	400	Triple-effect vacuum pan evaporation, fusion	Salt	Produces coarse and fine salt.
Canadian Superior Oil Ltd. 3 Calgary Place 355 - 4th Avenue South West Calgary, Alberta T2P 0J1	Harmattan	1966	515	Processing	Sulphur	Hydrogen sulphide is removed by sulfinol absorption. Sulphur is produced by Claus process.
	Lone Pine Creek South	1971	165	Processing	Sulphur	Hydrogen sulphide is removed by diethanolamine absorption. Sulphur is produced by modified Claus process.
Canterra Energy Ltd. 1700 Selkirk House 555 - 4th Avenue South West Calgary, Alberta T2P 3J6	Rainbow Lake	1968 1979	150 100	Processing	Sulphur	Hydrogen sulphide is removed from natural gas by amine absorption.
	Ram River	1972 1979	4 610 3 433	Processing	Sulphur	Hydrogen sulphide removed by DEA absorption. Sulphur produced by Claus process.
	Okotoks	1959	376	Processing	Sulphur	Hydrogen sulphide is removed from natural gas by monoethanolamine absorption. Sulphur is produced by modified Claus process.
	Nordegg River	1970	40	Processing	Sulphur	Hydrogen sulphide is removed by DEA absorption. Sulphur produced by Claus process.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
ALBERTA (cont'd)						
Chevron Canada Resources Limited 500 - 5th Avenue South West Calgary, Alberta T2P 0L7	North Nevis	1959	262	Processing	Sulphur	Hydrogen sulphide is removed by DEA absorption. Sulphur is produced by the Claus process.
	Kaybob South	1972	3 114	Processing	Sulphur	
Consolidated Concrete Limited P.O. Box 5338, Station 'A' Calgary, Alberta T2H 2N8	Calgary/O	1954	460 m^3 per day	Expanding	Lightweight aggregate (expanded shale	
Consolidated Concrete Limited P.O. Box 5150, Station 'E' Edmonton, Alberta T5P 4C1	Edmonton/O	1953	230 m^3 per day	Expanding	Lightweight aggregate (expanded clay)	Used for lightweight concrete and masonry units.
Dome Petroleum Limited 700 - 2nd Street South West Calgary, Alberta T2P 0X5	Brazeau River	1969	112	Processing	Sulphur	Hydrogen sulphide is removed from the raw gas (natural gas) by diethanolamine absorption at all plants except for Sturgeon Lake, which uses sulfinol and Sylvan Lake, which uses monoethanolamine. The sulphur is produced by the modified Claus process.
	Caroline	1968	22	Processing	Sulphur	
	Edson	1965	289	Processing	Sulphur	
	Kaybob I	1968	1 081	Processing	Sulphur	
	Kaybob II	1970	1 081	Processing	Sulphur	
	Lone Pine Creek	1966	287	Processing	Sulphur	
	Sturgeon Lake	1969	99.5	Processing	Sulphur	
	Sylvan Lake	1968	16	Processing	Sulphur	
	Zama	1968	75	Processing	Sulphur	
Domtar Inc. Domtar Construction Materials Division 1805 - 30th Avenue South East Calgary, Alberta T2G 4X8	Calgary	1930	363	Calcining	Plaster and wallboard	Gypsum is obtained from Westroc Industries quarry at Invermere, B.C.
Dresser Industries, Inc. (Magcobar Minerals Division) Rosalind, Alberta T0B 3Y0	Rosalind/O	1959	90	Crushing, sizing	Bentonite	Several types of bentonite products are prepared.
Esso Petroleum Canada Refining Department 55 St. Clair Avenue West Toronto, Ontario M5W 1K3	Strathcona	1975	40	Oil refining	Sulphur	

Esso Resources Canada Limited 237 4th Avenue South West Calgary, Alberta T2P 0H6	Joffre	1972	28	Gas processing	Sulphur	Hydrogen sulphide is removed from natural gas by monoethanolamine absorption at Redwater, sulfinol absorption at Quirk Creek and amine absorption at Joffre. Sulphur is produced by the modified Claus process.
	Quirk Creek	1971	300	Gas processing	Sulphur	
	Redwater	1956	24	Gas processing	Sulphur	
Genstar Cement Limited P.O. Box 2555 Edmonton, Alberta T5J 2T1	Plant - Edmonton	1956	3 890	Wet process, dry process	Cement	Plant consists of three wet kilns and one dry kiln. Dry kiln is four stage ore heater with flash calciner. Plant underwent expansion in 1978.
	Quarry - Cadomin/O		6 000		Limestone	Limestone is used in production of Portland cements by Genstar Cement Limited.
Genstar Gypsum Limited 901 College Plaza 8215 - 112th Street Edmonton, Alberta T6G 2C8	Edmonton	1970	500	Crushing, calcining	Wallboard	Crude gypsum is obtained from the quarry of Westroc Industries Limited near Windermere, B.C.
Gulf Canada Resources Inc. P.O. Box 130 Calgary, Alberta T2P 2H7	Nevis	1956	286	Gas processing	Sulphur	In the Nevis and Rimbey gas plants, hydrogen sulphide is removed from natural gas by monoethanolamine absorption, and in the Strachan and Hanlan Robb gas plants by diethanolamine. Sulphur in all plants is produced by the modified Claus process. The Strachan gas plant has installed a CBA Tail Gas Clean Up Unit which is to be operational by the end of 1983; the Hanlan Robb gas plant has a Sulfreen Tail Gas Clean Unit, both result in incremental sulphur recovery. The Pincher Creek sulphur plant was shutdown in April 1983, and the gas is now being processed at the Shell Waterton gas plant.
	Pincher Creek	1957		Gas processing		
	Rimbey	1961	330	Gas processing	Sulphur	
	Strachan	1971	880	Gas processing	Sulphur	

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
ALBERTA (cont'd)						
Home Oil Company Limited 2300, 324 - 8th Avenue South West Calgary, Alberta T2P 2Z5	Carstairs	1960	65	Processing	Sulphur	Hydrogen sulphide is removed from natural gas by diethanolamine absorption. Sulphur is produced by modified Claus process.
Mobil Oil Canada, Ltd. P.O. Box 800 Calgary, Alberta T2P 2J7	Wimborne	1965	315	Processing	Sulphur	Hydrogen sulphide is removed from natural gas by diethanolamine absorption. Sulphur is produced by modified Claus process.
Mountain Minerals Co. Ltd. P.O. Box 700 Lethbridge, Alberta T1J 3Z6	Mines: Brisco, Parson, Invermere, Moberly Plant: Lethbridge	1947	317	Pulverizing, sizing	Barite, silica, and other minerals	Mined barite underground from vein deposits at Parson and Brisco, B.C., and recovered crude barite from a tailings pond at Mineral King Mine near Invermere. The barite is shipped to Lethbridge for processing; minerals are sized in the plant. Silica is processed at a plant near Golden, B.C.
Petro-Canada Inc. 650 Guiness House P.O. Box 2844 Calgary, Alberta T2P 2M7	Gold Creek	1970	25	Processing	Sulphur	Hydrogen sulphide is removed by DEA absorption.
Petro-Canada Enterprises Inc. 736 - 8th Avenue South West Calgary, Alberta T2P 1H4	Wildcat Hills	1961	162	Processing	Sulphur	Hydrogen sulphide is removed from natural gas by monoethanolamine absorption. Sulphur is produced by modified Claus process.
Saratoga Processing Company Limited 1333 West Georgia Street Vancouver, British Columbia V6E 3K9	Coleman	1961	386	Processing	Sulphur	Hydrogen sulphide is removed by MEA absorption. Sulphur is recovered by modified Claus process.

Shell Canada Resources Limited P.O. Box 100 Calgary, Alberta T2P 2H5	Burnt Timber	1970	490	Processing	Sulphur	At Burnt Timber, Cochrane, Simonette, Waterton and Rosevear plants, hydrogen sulphide is removed from natural gas by sulfinol absorption and at Bowden plant by monoethanolamine absorption. In all plants, sulphur is produced by the modified Claus process.
	Bowden	1960	160	Processing	Sulphur	
	Cochrane	1951	510	Processing	Sulphur	
	Rosevear	1979	160	Processing	Sulphur	
	Simonette	1969	210	Processing	Sulphur	
	Waterton	1962	2 900	Processing	Sulphur	
Sil Silica A Division of Strathcona Resources Industries Ltd. 9303 - 51st Avenue Edmonton, Alberta T6E 4W8	Bruderheim/O	1971	400	Washing, drying, screening	Silica	Used in the manufacturing of fiberglass, molds and sandblasting.
Sulpetro Limited 3200 - 255 - 5th Avenue Calgary, Alberta T2P 3G6	Buck Lake	1967	50	Processing	Sulphur	Hydrogen sulphide is removed by DEA absorption. Sulphur is produced by modified Claus process.
Suncor Inc. P.O. Box 38 Calgary, Alberta T2P 2V5	Rosevear	1976	100	Processing	Sulphur	Hydrogen sulphide removed from natural gas by chemical (DEA) absorption and converted to elemental sulphur in a Claus plant.
Suncor Inc. Box 4001 Fort McMurray, Alberta T9H 3E3	Fort McMurray	1967	409	Refining	Sulphur	Sulphur recovery from synthetic crude by hydrodesulphurization.
Texaco Canada Resources Ltd. 605 - 5th Avenue South West P.O. Box 3333, Station "M" Calgary, Alberta T2P 2P8	Pigeon Lake	1954	15	..	Sulphur	Hydrogen sulphide removed by amine absorption. Sulphur produced by modified Claus process. Sulphur section added to mill in 1974.
Westcoast Transmission Company Limited 1333 West Georgia Street Vancouver, British Columbia V6E 3K9	Coleman	..	400	Processing	Sulphur	Hydrogen sulphide is removed from natural gas by MEA absorption and DEA absorption. Sulphur is produced by the Claus and Sulfreen process.

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
ALBERTA (cont'd)						
Western Decalta Petroleum (1977) Limited P.O. Box 2404 734 - 7th Avenue South West 9th Floor Calgary, Alberta T2P 2M7	Turner Valley	1933	30	Processing	Sulphur	Hydrogen sulphide is removed from natural gas by monoethanolamine absorption. Sulphur is produced by the modified Claus process.
Westroc Industries Limited 2650 Lakeshore Highway Mississauga, Ontario L5J 1K4	Calgary	1946	400	Crushing, calcining	Plaster and wallboard	Gypsum obtained from Windermere, B.C.
W.R. Grace & Co. of Canada Ltd. (Construction Products Division) 294 Clements Road West Ajax, Ontario L1S 3C6	Edmonton	1971	11 000 tonnes/yr	Exfoliating	Lightweight aggregate (vermiculite)	Aggregate used for loose insulating, horticultural products, industrial vermiculite, and fireproofing.
BRITISH COLUMBIA						
Baroid of Canada, Ltd. 1500, 840 - 7th Avenue South West Calgary, Alberta T2P 3G2	Spillimacheen	1961	90	Tabling	Barite	
Brinco Mining Limited 2000 - 1055 West Hastings Street Vancouver, British Columbia V6E 3V3	Cassiar/0	1953	4 000	Dry milling	Chrysotile asbestos	Asbestos fibre is extracted from ore by crushing, screening and aspiration; asbestos fibre is graded as to length and quality.
Canada Cement Lafarge Ltd. P.O. Box 490, Station 'B' Montreal, Quebec H3B 3K3	Richmond Plant No. 15/0	1958	555 000 tonnes/yr	Wet process	Cement	
	Kamloops Plant No. 14/0	1970	190 000 tonnes/yr	Dry process	Cement	
	Vananda No. 15A/0	..	..	Quarry	Limestone	Shipped to Richmond by barge.
Domtar Inc. Domtar Construction Materials Division 3355 Grandview Highway Vancouver, British Columbia V5M 1Z5	Surrey	1920	85 000 tonnes/yr	Calcining	Gypsum wallboard	Gypsum for the plant is produced in Mexico and Canada.

Esso Petroleum Canada Refining Department 55 St. Clair Avenue West Toronto, Ontario M5W 1K3	Ioco	1974	20	Oil refining	Sulphur	
Genstar Cement Limited 7777 Ross Road P.O. Box 950 Delta, British Columbia V4K 3S6	Delta	1978	1 000 000 tonnes/yr	Dry process	Cement	
Genstar Gypsum Limited 8215 - 112 Street 901 College Plaza Edmonton, Alberta T6G 2C8	Vancouver	1975	410	Crushing, calcining	Wallboard	Crude gypsum is obtained from the mine of Westroc Industries Limited near Windermere, B.C.
Industrial Mineral Products (B.C.) Ltd. P.O. Box 2026 New Westminster, British Columbia V3L 5A3	Burnaby	1961	163	Drying, crushing, sizing	Roofing granules, sandblasting abrasives	Processed material, copper reverberatory slag, custom screening.
Pacific Silica Products P.O. Box 39 Oliver, British Columbia V0H 1T0	Oliver	1965	90	Crushing, sizing, washing	Pacific white silica products roofing and stucco chips/dash, filter sand, ornamental rock, nursery decorative blasting sand	
Shell Canada Limited 505 University Avenue Toronto, Ontario M5G 1X4	Vancouver	1968	16 lt/d	Oil refining	Sulphur	Hydrogen sulphide in refinery gases is removed by absorption in an amine solution. Sulphur is produced by the modified Claus process.
Westcoast Transmission Company Limited 1333 West Georgia Street Vancouver, British Columbia V6E 3K9	Fort Nelson	1975	660 lt/d	Processing	Sulphur	Hydrogen sulphide is removed from natural gas by MEA absorption and DEA absorption. Sulphur is produced by the Claus and Sulfreen process.
	Taylor	1957	460 lt/d	Same	Same	
	Pine River	1980	1 000 lt/d	Same	Same	

Operator	Location of Plant or Mine/Type	Mill Started	Mill Capacity (tonnes/day)	Process	Products	Remarks
BRITISH COLUMBIA (cont'd)						
Westroc Industries Limited 2650 Lakeshore Highway Mississauga, Ontario L5J 1K4	Windermere Creek, Invermere/O	1957	3 200	Crushing	Gypsum	Crude gypsum is shipped to the company's calcining plants in Vancouver and Calgary, and to other customers for use in the manufacture of gypsum products.
	Vancouver	1960	270	Calcining	Plaster and wallboard	Gypsum obtained from Windermere Creek, B.C.
	Vancouver	1961	9	Expanding	Lightweight aggregates (perlite)	Operation disbanded.
W.R. Grace & Co. of Canada Ltd. (Construction Products Division) 294 Clements Road West Ajax, Ontario L1S 3C6	Vancouver	1945	7 200 tonnes/yr	Exfoliating	Lightweight aggregate (vermiculite)	Aggregate used for loose insulating, horticultural products, industrial vermiculite and fireproofing.

Operator	Quarry or Plant Location	Crushing/ Calcining Capacity (tonnes/day)	No. of Kilns V - Vertical R - Rotary O - Other	Products	If Stone Is Purchased From Where, Whom Predominant Usage
LIME PRODUCERS					
NEW BRUNSWICK					
Havelock Lime Works Ltd. Havelock, Kings County New Brunswick E0A 1W0	Havelock	2 400/		Aglime, filler, crusher stone, high calcium stone, mine dust, pulverized limestone	Used in mining, industrial filler, pulp and paper mills, glass manufacture and agriculture.
Havelock Processing Ltd. Havelock, Kings County New Brunswick E0A 1W0	Havelock	../168	R-1	Quick lime, hydrated lime	Havelock Lime Works Ltd., Havelock, N.B.

QUEBEC

Domlim Inc. 475 Place Trans-Canada Longueuil, Quebec J4G 1P4	Lime Ridge, St. Adolphe de Dudswell	2 250/ 400	V-6	High calcium lime	Pulp and paper, steel industry and pH control.
Domtar Inc. Domtar Chemicals Group (Lime Division) 395 de Maisonneuve Boulevard West Montreal, Quebec H3C 3M3	Joliette	6 000/ 800	R-3	Quicklime, hydrated lime, pulverized limestone	Steel, paper, chemical, mining, aluminum and agricultural industries.
Raffinerie de sucre du Québec 100 rue de la Raffinerie Mont St. Hilaire, Quebec J3H 4G6	Mont St. Hilaire	270/135	V-2	Hydrated lime	
Shawinigan Carbide Inc. Suite 2002 2020 University Street Montreal, Quebec H3A 2A5	Bedford	2 000/		Limestone	Chemical industry, glass industry, animal feed, fertilizers, agriculture and construction. Formerly owned by Gulf Canada Limited.
	Shawinigan	../540	R-5	High calcium lime, hydrated lime, carbide residue	Crushed limestone provided by company's Bedford quarry.

ONTARIO

Algoma Steel Corporation, Limited, The Queen Street West Sault Ste. Marie, Ontario P6A 5P2	Sault Ste. Marie	../544	R	Burnt lime and burnt dolomite	Limestone purchased from United States Steel Corporation, Roger City and Presque Isle - Stoneport, Michigan. Dolomite purchased from Drummond Dolomite Incorp., Drummond Island, Michigan.
	Sault Ste. Marie	../218	O-Calcimatic	Burnt dolomite and burnt lime	
Allied Chemical Canada, Ltd. 201 City Centre Drive 11th Floor Mississauga, Ontario L5B 2T4	Amherstburg	2 540/ 870	V-5	High calcium lime	Lime produced for captive use.
BeachviLime Limited P.O. Box 190 Ingersoll, Ontario N5C 3K5	Beachville	5 080/ 1 225	R-2 O-1	Calcined lime, pulverized limestone, sized limestone	Lime is used mostly in steel industry; limestone is used in glass industry and agricultural products. The quarry is owned by Dofasco Inc.

Operator	Quarry or Plant Location	Crushing/ Calcining Capacity (tonnes/day)	No. of Kilns V - Vertical R - Rotary O - Other	Products	If Stone Is Purchased From Where, Whom Predominant Usage
ONTARIO (cont'd)					
Chromasco Limited 130 Adelaide Street West P.O. Box 1160 Station A Toronto, Ontario M5W 1G5	Haley	450/ 145	R-2	Calcined dolomite	For internal production of magnesium metal.
Guelph DoLime Limited P.O. Box 217 Ingersoll, Ontario N5C 3K5	Guelph	800/ 325	V-12	Quick lime, hydrated lime	Subsidiary of BeachviLime Limited, Ingersoll, Ontario.
Reiss Lime Company of Canada, Limited P.O. Box 938 Blind River, Ontario P0R 1B0	Spragge	../550	R-2	Lime	United States Steel Corporation, Rogers City, Michigan.
Steetley Industries Limited Minerals Group P.O. Box 2029 605 James Street North Hamilton, Ontario L8N 3S9	Niagara Falls/O	1 600/..		Crushed dolomite	Aggregates for asphalt, concrete and road building.
	Dundas	1 000/..	R-3	Dead burnt dolomite, dolomitic lime, refractory lime	Metallurgical and glass industries.
	Dundas/O	10 000/..		Dolomite	Various grades of crushed and pulverized dolomite used in agriculture, construction, glass, fillers and metallurgy industries.
Stelco Inc. Box 98 Ingersoll, Ontario N5C 3K1	Ingersoll	3 260/ 552	V-3x95 R-1x330	High calcium limestone, lime	Used mostly in iron and steel making.
MANITOBA					
Manitoba Sugar Company, Limited, The 555 Hervo Street Winnipeg, Manitoba R3T 3L6	Fort Garry	../45	V-1	Lime	Limestone is purchased from Steel Brothers Canada Ltd., Winnipeg, Manitoba. Lime is produced for the company's own use.

Steel Brothers Canada Ltd. 190 - 3025 - 12th Street N.E. Calgary, Alberta T2E 3Z9	Faulkner	1 800/ 320	R-1	Crushed stone, high calcium quick lime dolomitic lime	Dolomitic stone purchased from Nelson River Construction from their Hilbre Quarry.
ALBERTA					
Alberta Sugar Company 306 - 10th Street South Lethbridge, Alberta T1J 2M6	Taber	../180	V-2	High calcium lime	Limestone purchased from Steel Brothers Canada Ltd.
Steel Brothers Canada Ltd. 190 - 3025 - 12th Street N.E. Calgary, Alberta T2E 3Z9	Kananaskis	1 270/ 360	R-2	Pebble lime, crushed lime, hydrated lime, calcium carbonate powders	
Summit Lime Works Limited P.O. Box 40 Coleman, Alberta T0K 0M0	Hazell	1 200/ 100	V-2	Crushed lime, hydrated lime, pulverized lime, pulverized limestone	Building, mining, water and sewage, industrial filler, feed.
BRITISH COLUMBIA					
Steel Brothers Canada Ltd. 190 - 3025 - 12th Street N.E. Calgary, Alberta T2E 3Z9	Pavilion Lake	1 540/ 290	R-1	Pebble lime, crushed lime	
Texada Lime Ltd. 20303 - 102nd Avenue Langley, British Columbia V6E 3L2	Langley	300	Calcimatic-Z	High calcium quick lime, sized limestone	

PART 2

METALLURGICAL WORKS IN CANADA
NONFERROUS AND PRECIOUS METALS

Operator	Location of Plant	Annual Rated Capacity (tonnes)	Product	Remarks
ALUMINUM				
Alcan Smelters and Chemicals Limited 1, Place Ville Marie Montreal, Quebec H3C 3H2	Jonquière, Quebec	432 000	Primary aluminum, pure or alloyed. Forms: hot metal, ingot for remelting, extrusion billets, rolling blocks, wire bars for fabrication. Brand Alcan.	Aluminum smelter. Inorganic chemical complex. Petroleum coke calcining plant.
	Beauharnois, Quebec	47 000		Aluminum smelter.
	Shawinigan, Quebec	84 000		Aluminum smelter.
	Alma, Quebec	73 000		Aluminum smelter.
	Ville La Baie, Quebec	57 000		Aluminum smelter. Annual capacity will be 171 000 tonnes when completed in 1983.
	Kitimat, British Columbia	268 000		Aluminum smelter. Petroleum coke calcinating plant.
Canadian Reynolds Metals Company, Limited 1100 Sherbrooke Street West Montreal, Quebec H3A 1G7	Baie Comeau, Quebec	154 000	Primary aluminum, pure or alloyed in ingot forms for remelting or extrusion billets, rolling blocks, wire bars for fabrication. Brand CRM	
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia		99.99%, 5/9 and 6/9 grades of high purity aluminum	Refining of comercial grade metal.
ANTIMONIAL-LEAD				
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia	820 (antimony)	"Cominco Brand" in 85-pound pigs. Antimony content 19%. Arsenic content 2% to 5%	Reduction and refining furnaces for treating lead drosses from lead cathode purification and high-antimony dust from silver refinery.
	Trail, British Columbia		5/9 and 6/9 grades of high purity antimony	Refining of commercial grade metal.

	Trail, British Columbia		Various grades from 99% to 7/9	Recovered as byproduct of lead refining.
BISMUTH				
Brunswick Mining and Smelting Corporation Limited, Smelting Division Belledune, New Brunswick E0B 1G0	Belledune, New Brunswick	1 350	Lead bismuth alloy 10% bismuth	Produced as a byproduct of lead smelting.
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia	180	"Tadanac Brand" in 28-pound bars and shot (intermittent operation) (99.99%). Also 5/9 and 6/9 grades of high purity bismuth	Bismuth-lead copper slags from silver refining treated by Parkes process and chlorination process to produce residual high purity bismuth.
CADMIUM				
Canadian Electrolytic Zinc Limited 860 Cadieux Boulevard Valleyfield, Quebec J6S 4W2	Valleyfield, Quebec	550	Metallic cadmium, sold as "CEZinc" brand, in sticks, balls and mossy	Cadmium precipitate from zinc refining is leached and reprecipitated as sponge, briquetted and cast.
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia	640	"Tadanac Brand" in ball, stick, bar, and extrusion as required. Also 5/9, 6/9 and electronic grades of high purity cadmium	Cadmium precipitates from zinc refining is leached and the metal is recovered by cementation.
Hudson Bay Mining and Smelting Co., Limited Head Office P.O. Box 28 Toronto-Dominion Centre Toronto, Ontario M5K 1B8	Flin Flon, Manitoba	160	Metallic cadmium in ball anode and stick form	Cadmium precipitate from zinc refining is leached and the metal is recovered by electrolysis.
Kidd Creek Mines Ltd. P.O. Box 175, Commerce Court Toronto, Ontario M5L 1E7	Timmins, Ontario	450	Metallic cadmium, Tg brand in ball and stick form	Cadmium precipitated from zinc solution, purified and cast.
CALCIUM				
Chromasco Limited 130 Adelaide Street West P.O. Box 1160 Station A Toronto, Ontario M5W 1G5	Haley, Ontario	900	Calcium - lumps, ingots, billets, granules, rods	Reduction of lime by aluminum under high vacuum in electric retort furnaces.

Operator	Location of Plant	Annual Rated Capacity (tonnes)	Product	Remarks
COBALT				
Inco Limited P.O. Box 44 1 First Canadian Place Toronto, Ontario M5X 1C4	Port Colborne, Ontario	1 000	Cobalt metal	Cobalt metal recovered by electrowinning process from nickel refinery byproducts.
	Thompson, Manitoba	470	Cobalt oxide	Cobalt oxide recovered from nickel refinery electrolyte.
Sherritt Gordon Mines Limited P.O. Box 28 Commerce Court West Toronto, Ontario M5L 1B1	Fort Saskatchewan, Alberta	900	Refined cobalt metal	Cobalt recovered from purchased materials.
COPPER				
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia	4 000	Copper-lead matte (granular)	Continuous drossing furnace.
Falconbridge Limited P.O. Box 40 Commerce Court West Toronto, Ontario M5L 1B4	Falconbridge, Ontario	600 000 (concentrates)	Copper-nickel matte	Copper-nickel concentrates roasted then smelted in electric furnaces and converted to produce matte for shipment to company's electrolytic refinery in Norway.
Hudson Bay Mining and Smelting Co., Limited Head Office P.O. Box 28 Toronto Dominion Centre Toronto, Ontario M5K 1B8	Flin Flon, Manitoba	520 000 (ores and concentrates)	Anode copper	Roasting furnaces, one reverberatory furnace and three converters for treating copper flotation concentrates and zinc-plant residues, in conjunction with slag fuming furnaces.
Inco Limited P.O. Box 44 1 First Canadian Place Toronto, Ontario M5X 1C4	Sudbury, Ontario	500 000 (concentrates)	Blister copper, for company's refinery	Oxygen flash smelting of copper sulphide concentrates. Copper converters produce blister copper. Through flotation separation of copper-nickel in bessemer matte, copper sulphides returned for additional blister copper production.
Maclaren Forest Products Inc. Division Mines Gaspé Murdochville, Quebec G0E 1W0	Murdochville, Quebec	300 000	Copper anode	One reverberatory furnace for wet charge concentrates, two Pierce-Smith converters, two anode furnaces and one Walker casting wheel. Also smelts custom materials.

Noranda Mines Limited P.O. Box 45 Commerce Court West Toronto, Ontario M5L 1B6	Noranda, Quebec	180 000	"ORC Brand" electrolytic copper, cathodes, wire bars, cakes and billets	Blister copper refined by electrolysis. Recovers and electrowins copper from nickel refinery residue.
		1 090 000 (ores, concentrates and scrap)	Copper anodes	Roasting furnaces, three reverberatories, five converters and one Noranda Continuous Reactor. Also smelts custom materials.
Noranda Mines Limited C.C.R. Division P.O. Box 45 Commerce Court West Toronto, Ontario M5L 1B6	Montreal East, Quebec	480 000	Electrolytic Copper "C.C.R. Brand" wire bars, ingot bars, ingots, cathodes, cakes and billets	Refines anode copper from Noranda, Gaspé and Flin Flon smelters, and purchased scrap and blister.
		14 000	Copper sulphate by vacuum evaporation and crystallization, "Noranda Brand" in regular commercial and agricultural grades	
GALLIUM				
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia		Electronic grade	
INDIUM				
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia		Cominco Brand standard grade ingots and shot, 99.999 grade ingots, 10 and 100 troy ounces. Also 6/9 grade of high purity indium	Byproduct of zinc-lead production.
LEAD				
Brunswick Mining and Smelting Corporation Limited Smelting Division Belledune, New Brunswick E0B 1G0	Belledune, New Brunswick	60 000	Refined lead	Lead blast furnace.
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia	145 000 (refined lead)	Refined lead "Tadanac Brand" in 100 and 2,000-pound pigs. Also 5/9 and 6/9 grades of high purity lead	Concentrate is sintered, then smelted in two blast furnaces. Slag treated in fuming plant. Betts electrolytic process.

Operator	Location of Plant	Annual Rated Capacity (tonnes)	Product	Remarks
MAGNESIUM				
Chromasco Limited 130 Adelaide Street West P.O. Box 1160 Station A Toronto, Ontario M5W 1G5	Haley, Ontario	11 000	High purity magnesium and magnesium alloy. Ingots, billets, extrusions and granules	Magnesium is produced by thermal methods involving the reduction of calcined dolomite by ferro-silicon under high vacuum in electric retort furnaces. Other metals produced are: calcium, strontium, barium, titanium, zirconium, thorium. The magnesium capacity was increased to 11 000 tonnes with conversion from electrical to natural gas heating furnaces.
MERCURY				
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia		Electronic grade	Refined from commercial grade metal.
Johnson Matthey Limited Chemical Division 130 Glidden Road Brampton, Ontario L6W 3M8	Brampton, Ontario		Distilled mercury	Technical double and triple distilled grades for industrial and dental uses.
MOLYBDENUM				
Eldorado Gold Mines Inc. P.O. Box 10 Duparquet, Quebec J0Z 1W0	Duparquet, Quebec	8 100 (contained Mo)	Molybdic oxide	Treats molybdenite concentrates (custom roasting), converts molybdic oxide to ferromolybdenum by silicothermic method.
Placer Development Limited (Endako Mines Division) 700 Burrard Building 1030 West Georgia Street Vancouver, British Columbia V6E 3A8	Endako, 16 kilometres west of Fraser Lake	6 350 Roaster 10 800 (contained Mo)	Molybdenite conc, molybdic oxide	All of the molybdenite conc is roasted to convert molybdenite to molybdic oxide; sold on domestic and foreign markets. Surplus roasting capacity is used for custom roasting.
NICKEL				
Falconbridge Limited P.O. Box 40 Commerce Court West Toronto, Ontario M5L 1B4	Falconbridge, Ontario	600 000 (concentrates)	Copper-nickel matte	Copper-nickel concentrates roasted, then smelted in electric furnaces and converted to produce matte for shipment to company's electrolytic refinery in Norway.

Inco Limited P.O. Box 44 1 First Canadian Place Toronto, Ontario M5X 1C4	Sudbury, Ontario	2 100 000 (concentrates)	Copper-nickel bessemer matte	Herreschoff roasters and reverberatory furnaces smelt nickel-copper conc. Converters produce bessemer matte.
			Nickel sulphide and nickel oxide sinter for company's refineries Nickel oxide sinter 75 and Incomet nickel for market	Nickel-copper sulphides separated through flotation; nickel sulphide product fluid-bed roasted for refining and marketing. Nickel oxide sinter through chlorination and reduction produces Incomet nickel.
		56 800	Nickel pellets, nickel powders and iron-nickel powders for market	Metallic copper-nickel concentrate refined by Kaldo top blown rotary converters and Inco pressure carbonyl process.
			Nickel refinery residue Nickel sulphate	Recovered from Copper Tank House solutions.
	Port Colborne, Ontario	68 000	Inco electrolytic nickel rounds; nickel magnesium alloys; utility nickel for market	Anode furnace producing nickel anodes for electrolytic refining to pure nickel cathodes. Reduction of nickel anode sinter produces utility nickel.
	Thompson, Manitoba	1 270 000 (concentrates)	Nickel sulphide anodes	Fluid bed roasting, electric furnace smelting followed by converting to nickel matte which is cast into anodes.
	Thompson, Manitoba	45 500	Inco electrolytic nickel	Electrolytic refining of nickel sulphide anodes to pure nickel cathodes for market. Cobalt oxide is also produced.
Sherritt Gordon Mines Limited P.O. Box 28 Commerce Court West Toronto, Ontario M5L 1B1	Fort Saskatchewan, Alberta	20 000 (nickel)	Refined nickel	Chemical metallurgical plant employing pressure ammonia leach and hydrogen reduction processes for processing custom ore concentrates, mattes and other nickel containing feed materials. Also ammonia, ammonium sulphate, ammonium phosphates, and urea plants. Refined cobalt metal, composite metal powders and copper sulphide are produced. Includes metal powder rolling plant and coinage mint.
PRECIOUS METALS				
Agnico-Eagle Mines Limited 1612 - 401 Bay Street Toronto, Ontario M4S 3A6	Coleman Township, Cobalt, Ontario	93 300 kg	Silver "C.S.R. Brand" in 1,000-oz bars Fineness 995 High purity silver	Custom smelter - silver recovered from cobaltiferous - arsenical type concentrates by a hydrometallurgical process.

Operator	Location of Plant	Annual Rated Capacity (tonnes)	Product	Remarks
PRECIOUS METALS (cont'd)				
Brunswick Mining and Smelting Corporation Limited Smelting Division Belledune, New Brunswick E0B 1G0	Belledune, New Brunswick	90 000 kg	Silver doré	Fire refining.
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia	3 117 kg 435 400 kg	High purity gold Silver "Tadanac Brand" in 1,000-oz bars. Silver crystals available. 5/9 and 6/9 grades of high purity silver	Recovers precious metals from own and custom ores as byproduct of lead refinery. Also custom refining.
Delta Smelting & Refining Co. Ltd. 2200 Shell Road Richmond, British Columbia V6X 1L1	Richmond, British Columbia	Gold 12 500 kg Silver 32 500 kg	Refines gold and silver to minimum 999.5 fineness. Also, karat and sterling casting grain and silver crystals	Producers and suppliers of high purity gold and silver and their alloys. Recovery of precious metals from scrap, sweeps, high grade concentrates, placer.
Engelhard Industries of Canada Limited 100 Engelhard Drive Aurora, Ontario L4G 3N1	Aurora, Ontario Delta, British Columbia		Refiners of gold, silver and platinum group metals and producers of alloys in sheet, coin blanks, bars, wire, tubing, salts, solders, etc., as well as other manufactured and semi-manufactured forms	Producers and suppliers of precious metals and their alloys for use in the arts and industry by mints, industry and for investment. Recovery of precious metals from scrap and dross.
Handy & Harman of Canada, Limited 290 Carlingview Drive Rexdale, Ontario M9W 5G1	Toronto, Ontario		Silver, gold, platinum refiners. Gold and silver sheet and wire; alloy and solders	Precious metals and alloys produced for use in arts and industry. Recovery of precious metals from scrap and dross.
Hudson Bay Mining and Smelting Co., Limited Head Office P.O. Box 28 Toronto Dominion Centre Toronto, Ontario M5K 1B8	Flin Flon, Manitoba	Gold 2 333 000 g Silver 31 000 kg	Anode copper containing gold and silver	Gold and silver recovered from the anode copper at Canadian Copper Refiners Limited is returned to Hudson Bay for marketing.
Inco Limited P.O. Box 44 1 First Canadian Place Toronto, Ontario M5X 1C4	Sudbury, Ontario		Fine gold and silver platinum group metals concentrate Platinum group metals concentrate	After electro-refining of copper nickel, recovered as byproduct from slimes. Recovered as a byproduct from Copper Cliff nickel refinery residue.

Johnson Matthey Limited 110 Industry Street Toronto, Ontario M6M 4M1	Toronto, Ontario		Refined gold, silver and platinum group metals and alloys in sheet, coin blanks, bars, wire, tubing salts, solders, etc., as well as other manufactured and semi-manufactured forms. Minted items.	Producers and suppliers of precious metals and their alloys for use in the arts, by mints, industry and for investment. Recovery of precious metals from scrap and dross.
Johnson Matthey Limited Chemical Division 130 Glidden Road Brampton, Ontario L6W 3M8	Brampton, Ontario		Refiners of gold, silver and platinum group metals. Producers of precious metal chemicals	Treatment and refining of gold and silver ores and high grade concentrates. Recovery of precious metals from industrial and jewellery scrap.
Noblex Métal Corporation Limitée 2217 de la Métropole Longueuil, Quebec J4G 1S5	Longueuil, Quebec	Gold - 7 000 kg Silver - 20 000 kg	Refiners of gold and silver, platinum group metals, casting alloys to 999.5 minimum fineness	Producers and suppliers of high purity gold, silver and their alloys. Recovery of precious metals from scrap sweeps and high grade concentrates.
Noranda Mines Limited C.C.R. Division P.O. Box 45 Commerce Court West Toronto, Ontario M5L 1B6	Montreal East, Quebec	Gold - 22 400 000 g Silver - 930 000 kg	"C.C.R. Brand" fine gold and silver recovered electrolytically from slimes. Gold - "kilo" bars and 400-oz bars	
Royal Canadian Mint 355 River Road Ottawa, Ontario K1A 0G8	Ottawa, Ontario	217 000 000 g	Refiners of gold	Treats base bullion from Canadian, U.S. and foreign mines, as well as scrap, drosses, etc. Customer's product refined to 0.995 or 0.9999 fine.
SELENIUM AND TELLURIUM				
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia		5/9, 6/9 and electronic grades of high purity tellurium	Refined from commercial grade metal.
Inco Limited P.O. Box 44 1 First Canadian Place Toronto, Ontario M5X 1C4	Copper Cliff, Ontario	82 000 kg	Selenium powders (over 99.5% selenium)	Recovered as a byproduct from slimes resulting from electrorefining of copper.
		8 200 kg	Tellurium dioxide powder	Recovered as a byproduct from slimes resulting from electrorefining of copper.

Operator	Location of Plant	Annual Rated Capacity (tonnes)	Product	Remarks
SELENIUM AND TELLURIUM (cont'd)				
Noranda Mines Limited C.C.R. Division P.O. Box 45 Commerce Court West Toronto, Ontario M5L 1B6	Montreal East, Quebec	340 000 kg	"Noranda Brand" commercial grade and high purity selenium, selenious acid, sodium selenate, sodium selenite and iron selenide	Recovered as byproducts from slimes in electrolytic refining of copper anodes produced at Noranda and Gaspé smelters and by Hudson Bay Mining and Smelting Co., Limited.
		34 300 kg	"Noranda Brand" commercial grade tellurium powder, stick, lumps and tellurium dioxide	
STRONTIUM				
Chromasco Limited 130 Adelaide Street West P.O. Box 1160 Station A Toronto, Ontario M5W 1G5	Haley, Ontario	45 350 kg	"Chromasco Brand" Strontium metal 99%	Oxide reduction process.
THALLIUM				
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia		6/9 grade of high purity thallium	Refined from commercial grade metal.
TIN				
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia		5/9 and 6/9 grades of high purity tin	Refined from commercial grade metal.
TITANIUM				
Kennametal Inc., Macro Division 1651 Kingsway Avenue Port Coquitlam, British Columbia V3C 1S3	Port Coquitlam, British Columbia		Titanium carbide Titanium nitride powders	
QIT-Fer et Titane Inc. P.O. Box 560 Sorel, Quebec J3P 5P6	Sorel, Quebec	865 000 601 000	Titanium dioxide slag (SORELSLAG) High grade iron (SORELMETAL)	Smelts ilmenite ores from Allard Lake in nine electric furnaces to produce high TiO_2 slag (SOREL-SLAG) and titanium pig iron (SORELMETAL)

TUNGSTEN

Kennametal Inc. Macro Division 1651 Kingsway Avenue Port Coquitlam, British Columbia V3C 1S3	Port Coquitlam, British Columbia		Tungsten carbide powders, tungsten metal powder, tungsten matrix powders, tungsten titanium carbide, tungsten carbide hard-facing powders	Electric smelting and chemical methods used to produce tungsten and titanium carbide and products. Also refines tantalite and columbite ore concentrates to produce tantalum-columbium hard carbides for the cemented carbide industry.

URANIUM

Eldorado Nuclear Limited Head Office Suite 400 255 Albert Street Ottawa, Ontario K1P 6A9	Port Hope, Ontario	6 000	Uranium trioxide powder (UO_3)	Uranium mill concentrates are refined to nuclear purity UO_3 through solvent extraction.
		1 200	Ceramic powder (UO_2) - natural, enriched or depleted	UO_3 is converted to UO_2, ready for pressing and sintering to form pellets for CANDU nuclear fuel.
		1 500	Uranium metal and alloys - natural, enriched or depleted	Magnesium reduction is used to reduce UF_4 to metal. Vacuum melting, casting and machining to various forms.
		4 500	Uranium hexafluoride (UF_6)	UO_3 is converted to UF_6 for export markets.

ZINC

Canadian Electrolytic Zinc Limited 860 Cadieux Boulevard Valleyfield, Quebec J6S 4W2	Valleyfield, Quebec	227 000	Slab zinc "CEZinc" brand in all grades. Regular and jumbo shapes	Roasting of zinc concentrates with production of sulphuric acid. Leaching of calcine and electrowinning of zinc. Cathode zinc melted and cast according to customer specifications.
Cominco Ltd. 200 Granville Street Vancouver, British Columbia V6C 2R2	Trail, British Columbia	250 000	Zinc "Tadanac Brand" in 56 lb slabs in industry-recognized grades. Jumbo slabs 2,000 and 2,400 lbs each. C-cast jumbos @ 100 lb per inch, and anodes for cathodic protection. Also 5/9 and 6/9 grades of high purity zinc	Roasting of zinc concentrates followed by leaching and refined zinc production by electrolysis. Cathodes melted and zinc cast in slabs.

Operator	Location of Plant	Annual Rated Capacity (tonnes)	Product	Remarks
ZINC (cont'd)				
Hudson Bay Mining and Smelting Co., Limited Head Office P.O. Box 28 Toronto-Dominion Centre Toronto, Ontario M5K 1B8	Flin Flon, Manitoba	75 000	Slab zinc special high grade, high grade, prime western, zinc alloys	Roasting of zinc concentrates followed by leaching and refined zinc production by electrolysis. Cathodes melted and zinc cast in slabs and blocks.
Kidd Creek Mines Ltd. Box 175, Commerce Court Toronto, Ontario M5L 1E7	Timmins, Ontario	110 000	Slab zinc, special high grade, high grade and prime western of Tg brand in 55 lb slabs and various larger ingots	Roasting of zinc concentrates, leaching and electrolysis of solution. Cathodes melted and cast to customer needs.

PART 3

METALLURGICAL WORKS IN CANADA
PRIMARY IRON AND STEEL

IRON AND STEEL FURNACES

Pig Iron - Blast and Electric Furnace Plants

Operator	Location of Plant	Annual Capacity (tonnes)	Product	Principal Equipment
NOVA SCOTIA				
Sydney Steel Corporation P.O. Box 1450 Sydney, Nova Scotia B1P 6K5	Sydney	820 000	Iron: basic	Two blast furnaces: Fce. 1: Height 89'0", Hearth 20'0", Bosh 25'2", Volume of Stack (cu ft) 24,450, Last Rebuilt/Relined 1965/78 Fce. 3: Height 91'0", Hearth 21'6", Bosh 24'6", Volume of Stack (cu ft) 23,500, Last Rebuilt/Relined 1973/73 Eight stoves: total heating surface 1,216,870 sq.ft. Three blowing engines (one Ingersoll, 50,000 cfm @ 30-lb pressure; one Ingersoll, 60,000 cfm @ 30-lb pressure; one Brown Boveri, 60,000 cfm @ 30-lb pressure) one gas cleaning plant
		545 000	Coke	No. 5 Battery - Koppers: No. of Ovens 53 No. 6 Battery - Koppers: No. of Ovens 61
QUEBEC				
QIT-Fer et Titane Inc. P.O. Box 560 Sorel, Quebec J3P 5P6	Tracy	578 000 (specialty pig iron)	Special pig iron in conjunction with the production (SOREL) (titanium dioxide) slag	Nine special electric ilmenite-smelting furnaces.
Sidbec-Dosco Inc. P.O. Box 100 Contrecoeur, Quebec J0L 1C0	Contrecoeur	1 200 000	Reduced pellets	Two Midrex direct reduction modules.
ONTARIO				
Algoma Steel Corporation, Limited, The Steelworks Division Sault Ste. Marie, Ontario P6A 5P2	Sault Ste. Marie	3 700 000	Pig iron: basic, malleable and foundry	Five blast furnaces: Fce. 3*: Height 88'0", Hearth 18'6", Working Volume (cu ft) 21,215, Last Rebuilt/Relined 1964/69 Fce. 4: Height 85'0", Hearth 17'3", Working Volume (cu ft) 16,810, Last Rebuilt/Relined 1979 Fce. 5: Height 100'0", Hearth 27'0", Working Volume (cu ft) 45,605, Last Rebuilt/Relined 1980 Fce. 6: Height 100'0", Hearth 27'0", Working Volume (cu ft) 45,605, Last Rebuilt/Relined 1980 Fce. 7: Height 113'0", Hearth 35'0", Working Volume (cu ft) 85,654, Last Rebuilt/Relined 1975(new)/1981 * Not lined.

		657 000	Sinter
		1 662 900 (dry weight)	Coke
Dofasco Inc. Burlington Street East P.O. Box 460 Hamilton, Ontario L8N 3J5	Hamilton	3 193 300	Pig iron: basic, foundry, malleable
		1.55 million coke tonnes	Coke
Stelco Inc. Hilton Works Hamilton, Ontario L8N 3T1	Hamilton	3 810 150	Pig iron: basic

Fourteen hot blast stoves:

Fce.	No. of Stoves	Heating Surface in sq ft Total
3		285,296
4	3	389,000
5	3	573,000
6	3	573,000
7	4	1,860,000

Two double strand, pig-casting machines (combined capacity approximately 2,400 net tpd)

Blowing engines:

Unit	Kind	Capacity cfm	Rated Pressure (lb/sq in)
2 Ingersol Rand	Turbo	190,000	30
1 British Thomson Houston	Turbo	85,000	30
1 Brown Boveri	Turbo	140,000	35
1 Brown Boveri	Turbo	174,000	45

One Dwight-Lloyd sintering unit (continuous type sintering machine, 72"x84' over fourteen wind boxes)

Coke Plant:

	No. of Ovens
No. 5 Battery - Koppers	86
No. 6 Battery - Koppers	57
No. 7 Battery - Wilputte	57
No. 8 Battery - Wilputte	60
No. 9 Battery - Wilputte	60
	320

Four blast furnaces:

Fce.	Height	Hearth	Bosh	Volume of Stack (cu ft)	Last Rebuilt/ Relined
1	81'9"	20'9"	24'3"	31,835	1975/81
2	81'9"	20'9"	24'3"	32,454	(new)1956/80
3	108'10½"	21'6"	22'9"	31,948	(new)1960/81
4	120'11"	28'	32'7"	55,654	(new)1970/80

Coke plant: 35 6-meter Didier Flow controlled under jet-ovens

Two hundred and eleven ovens, Koppers-Becker, Gun Flue type (one battery of 25 ovens, one battery of 35 ovens, one battery of 45 ovens and two batteries of 53 ovens)

Four blast furnaces:

Fce.	Height	Hearth	Bosh	Volume of Stack (cu ft)	Built	Last Rebuilt/ Relined
B	89'2"	19'1"	23'6"	23,583	1910	1979/79
C	99'8"	24'9"	29'0"	37,719	1940	1979/79
D	104'2"	29'0"	33'5"	52,866	1951	1982/82
E	105'8"	32'0"	38'10"	72,491	1967	1978/78

Operator	Location of Plant	Annual Capacity (tonnes)	Product	Principal Equipment
ONTARIO (cont'd)				
Stelco Inc. (cont'd)				Sixteen hot blast stoves:

Fce.	No. of Stoves	Size	Heating Surface (sq ft)
B	4	90' x 21'	483,635
C	2	100' x 22')	619,084
	1	106' x 22')	
D	3	109'6-5/8" x 25'	803,254
E	3	131' x 30'	1,724,115
	13		3,630,088

Seven blowing engines (two Turbo blowers, 90,000 cfm @ 30 psi; one Turbo blower, 45,000 cfm @ 22 psi; one Turbo blower, 110,000 cfm @ 30 psi; three Turbo blowers, 102,200 cfm @ 40 psi; total rated capacity 641,600 cfm.

		762 000	Sinter	Sinter plant: Screening and sizing plant One strand (6'7" wide) of the Dwight-Lloyd type
		2 154 550 (dry weight)	Coke: (metallurgical, nut, range, pea, blower, breeze)	Coke plant: 347 ovens (one battery of 61 ovens, one battery of 83 ovens, one battery of 47 ovens, one battery of 73 ovens and one battery of 83 ovens)
Stelco Inc. Griffith Mine Red Lake, Ontario P0V 2M0	Red Lake	317 500	Reduced iron pellets	SL-RN direct reduction kiln.
Stelco Inc. Lake Erie Works Nanticoke, Ontario N0A 1L0	Nanticoke	987 900	Pig iron: basic, foundry, malleable	One blast furnace:

Fce.	Height	Hearth	Bosh	Volume of Stack (cu ft)	Built
1	123'0"	33'9"	39'8"	75,300	1980

Three hot blast stoves:

Fce.	No. of Stoves	Size	Heating Surface (sq ft)
1	3	29'6" x 145'	1,870,300

Two blowing engines (two Turbo blowers, 47,500 cfm)
One two strand pig-casting machine
Gas cleaning: one dust catcher, one Bischoff scrubber

		509 500 (dry weight)	Coke: (metallurgical)	Coke Plant: One battery of 45 ovens

NEW BRUNSWICK

Texas Steel Company of Canada Ltd. P.O. Box 475 St. Stephen, New Brunswick E3L 2X3	St. Stephen	16 300	Steel castings	Closed operations

NOVA SCOTIA

Enheat Inc. 100 Main Street Sackville, New Brunswick E0A 3C0	Amherst (Plant 4)	18 150	Ingots	One 8-ton Lectromelt basic electric furnace (4,000 kva)
Maritime Steel and Foundries Limited 379 Glasgow Street New Glasgow, Nova Scotia B2H 5C3	New Glasgow	2 700	Steel and alloy castings	One 4-ton Heroult electric furnace (750 kva) Pattern shop Oil-fired, heat-treating facility with water quenching
Sydney Steel Corporation P.O. Box 1450 Sydney, Nova Scotia B1P 6K5	Sydney	1 000 000	Steel ingots and castings	Four 225-ton, oil-fired, oxygen-lanced, stationary basic open hearth furnaces One 200-ton, oil-fired, oxygen-lanced, tilting basic open hearth furnaces One 225-ton D-H vacuum degassing unit One 10-ton, direct-arc, 3-phase electric furnace (4,000 kva) (30,000 net tpy) One 450 tpd liquid air process, oxygen producing plant

QUEBEC

Abex Industries Ltd. Amsco Canada Division 620 Laval Street Joliette, Quebec J6E 6H5	Joliette	46 275	Austenitic manganese, heat and wear resistant and constructional steel and iron castings	One 8-ton electric furnace (2,500 kva) One 5-ton, C.Q.T. Lectromelt electric furnace (3,000 kva)
Atlas Steels Division of Rio Algom Limited Welland, Ontario L3B 5R7	Tracy	68 000	Stainless steel sheet and strip	One 65-ton, electric furnace (18,750 kva) One 1-strand continuous casting machine for slabs to 5" x 52" One 60-ton V.O.D. vessel
Canadian Steel Foundries Division of Hawker Siddeley Canada Inc. P.O. Box 80, Station M Montreal, Quebec H1V 3L7	5227 Notre Dame St. East Montreal	30 000	Carbon and alloy-steel castings	One 35-ton Heroult electric furnace (12,500 kva) One 20-ton Heroult electric furnace (7,500 kva) One 3-ton Volta electric furnace (2,000 kva)

Operator	Location of Plant	Annual Capacity (tonnes)	Product	Principal Equipment
QUEBEC (cont'd)				
Canadian Steel Wheel Division Hawker Siddeley Canada Inc. 1900 Dickson Street Montreal, Quebec H1N 2H9	Montreal	140 000	Wrought steel railway and transit wheels, carbon and alloy steel ingots	Two 60-ton Tagliaferri electric furnaces (17,500 kva each) Three forging presses (1,000, 3,000 and 6,000 tons) Three heat treating furnaces
Colt Canada Inc. Crucible Steel Division Sorel, Quebec J3P 5P2	Sorel	38 100	Alloy, carbon, stainless and tool steels, slabs, billets, rounds, customs forgings	One 40-ton (7,500 kva) and one 15-ton (4,500 kva), Lectromelt electric furnaces One hydraulic forging press (5,000 tons) One hydraulic forging press (2,000 tons) with related forge heating facilities Annealing, quenching and tempering facilities Plano-mills, lathes, cold sawing equipment and deep boring facilities
Dominion Engineering Works Limited P.O. Box 220 Montreal, Quebec H3C 2S5	Lachine	10 000	Carbon, alloy steel castings Gray cast iron (Meelanite) chilled cast iron and nodular iron	Two 20-ton induction melting furnaces (4,500 kw) One 5-ton Lectromelt electric furnace (1,800 kva) One 15-ton Lectromelt electric furnace (3,750 kva) Three annealing furnaces, gas-fired
Griffin Canada Inc. P.O. Box 310 St-Hyacinthe, Quebec J2S 7B6	St. Hyacinthe	47 600	Cast steel railway, transit and industrial wheels, composition brake-shoes	Two 6-ton Swindell-Dressler electric furnaces (3,750 kva each)
Metallurgie Frontenac Ltée P.O. Box 249 Thetford Mines, Quebec G6G 5S9	500 Geo. Smith Blvd. Thetford Mines	5 500	Carbon steel, manganese steel and other abrasion-resistant alloy steel castings	One 3-ton, top-charge, Volta electric furnace (3,000 kva) One 1½-ton, Heroult-type, electric furnace (850 kva)
Sidbec-Dosco Inc. Longueuil Works 2555 chemin du Lac Longueuil, Quebec J4N 1C1	Longueuil	300 000	Carbon low and medium alloy continuous cast billets	Two 55-ton Lectromelt furnaces (25,000 kva each) Two 3 strand concast continuous casting machines for billets 100 to 200 mm square
Sidbec-Dosco Inc. Montreal Works 5870 St. Patrick Street P.O. Box 67 Montreal, Quebec H3C 2R4	Montreal	190 000	Steel billets	One 60-ton Lectromelt electric furnace (30,000 kva) One 4-strand continuous casting machine for billets 80 to 160 mm square

Sidbec-Dosco Inc. Contrecoeur Works P.O. Box 100 Contrecoeur, Quebec J0L 1C0	Contrecoeur	1 200 000	Steel slabs and billets	Two 150-tons American Bridge electric furnaces (90,000 kva each) Two 120-tons Lectromelt electric furnaces (50,000 kva each) Two 6-strand continuous casting machines for billets 100 mm square to 200 mm square (concast) One 1-strand continuous casting machine for slabs 180 m to 1 500 mm (Voest Alpine)
Sorel Steel Inc. 160 Roi Street Sorel, Quebec J3P 4N5	Sorel	12 000	Carbon steel, manganese steel and other abrasion-resistant alloy steel castings	One 4-ton Lectromelt electric furnace (1,500 kva) One 8-ton Swindell electric furnace (3,500 kva) Heat treating and quenching equipment, pattern shop, testing facilities
Stelco Inc. McMaster Works Contrecoeur, Quebec J0L 1C0	Contrecoeur	263 100	Continuous cast billets	One 92-ton American Bridge electric furnace (50/56 MVA) One continuous casting machine, 4 strands (3½", 4", 6" and 6.7" square) billets
Unitcast Canada Inc. 455 Belvedere Street Sherbrooke, Quebec J1H 4B7	Sherbrooke	3 300	Carbon and low alloy steel castings	One 3-ton Volta electric furnace (2,000 kva) Annealing, quenching and tempering facilities
ONTARIO				
Algoma Steel Corporation, Limited, The Steelworks Division Sault Ste. Marie, Ontario P6A 5P2	Sault Ste. Marie	4 080 000	Carbon and alloy steel ingots	Five basic oxygen furnaces (L-D) Number of Furnaces: 3 — Kind: Basic oxygen (L-D) — Average Size Heat (net tons): 105 2 — Basic oxygen (L-D) — 260 One 4-strand continuous casting machine for blooms from 10½"x9" to 10½"x14" One 2-strand continuous casting machine for slabs up to 30" wide and various shaped sections One 2-strand continuous casting machine for slabs 8" and 10" thick x 40" to 85" wide
Atlas Steels Division of Rio Algom Limited Welland, Ontario L3B 5R7	Welland	317 500	Carbon, alloy and stainless steel ingots. Continuously cast carbon, alloy and steel slabs and billets	Two 60-ton electric furnaces (30,000 kva each) One 25-ton electric furnace (15,000 kva) One 60-ton vacuum oxygen refining system One 1- or 2-strand continuous casting machine for billets 4" to 8½" square and slabs to 6 5/8" x 24" One 30-inch and one 40-inch consumable electrode vacuum arc melting furnaces
Black Clawson-Kennedy Ltd. 1144 - 1st Avenue West Owen Sound, Ontario N4K 5P9	Owen Sound	5 100	Carbon, alloy steel castings Stainless steel, grey iron, ductile iron, Ni-resist castings Nonferrous casting	One 4-ton Lectromelt electric furnace (2,000 kva) One 1¾-ton Volta electric furnace (800 kva) One 3,000-lb 400-kva indirect-rocking arc electric furnace One 1,600-lb 300-kva and one 300-lb 300-kva high frequency, induction melting furnaces

Operator	Location of Plant	Annual Capacity (tonnes)	Product	Principal Equipment
ONTARIO (cont'd)				
Burlington Steel Division of Slater Steel Industries Limited 319 Sherman Avenue North Hamilton, Ontario L8N 3P9	Hamilton	330 000	Continuously cast carbon and low alloy steel billets	Two 45-ton Heroult electric furnaces (15,000 kva) One 65-ton Heroult electric furnace (28,000 kva) Two 3-strand continuous casting machines for billets 4"x6¾", 5"x7" and 4" square
Canada Alloy Castings, Ltd. 529 Manitou Drive Kitchener, Ontario N2C 1S2	Kitchener	2 040	Carbon, low alloy and high alloy steel castings	Two 2,000-lb induction furnace (500 kw) Two 3,000-lb induction furnace (700 kw)
Dayton-Walther Company Limited 355 Silvercreek Parkway Guelph, Ontario N1H 1E6	Guelph	12 700 21 000	Carbon and steel castings Iron castings Ductile iron	One 1,500 kva induction furnace One 2,500 kva induction furnace Two 3,500 kva induction furnaces One 4,000 kva acid, arc furnace
Dofasco Inc. Burlington Street East P.O. Box 460 Hamilton, Ontario L8N 3J5	Hamilton	4 047 000 (steel ingots) 68 040 (castings) 770	Steel ingots and castings and alloy-steel ingots and castings High alloy steel castings	One 250-ton basic oxygen steelmaking furnace (L-D) #2 melt shop Three 150-ton basic oxygen steelmaking furnaces #1 melt shop Two 100-tpd, one 400-tpd, and one 150-tpd liquid-air process, oxygen-producing plants One 2½-ton (1,800 kva) Lectromelt electric furnace Two 10-ton, Volta 3-phase electric furnaces (6,000 kva) One 300-lb, one 1,000-lb and one 2,000-lb induction furnaces
Eastern Steelcasting Division of Ivaco Inc. P.O. Box 510 L'Orignal, Ontario K0B 1K0	L'Orignal	300 000	Plain carbon and low alloy billets	Two 65-ton electric furnaces One 4-strand continuous casting machine
Esco Limited Hope Street South Port Hope, Ontario L1A 3W4	Port Hope	8 200	High and low alloy stee castings	One 5-ton Lectromelt electric furnace (2,000 kva) Heat treating facilities
Fahramet Division of Indusmin Limited P.O. Box 1700 Orillia, Ontario L3V 6H6	Orillia	13 600	Heat and corrosion resisting high alloy, steel castings carbon and low alloy, steel castings abrasion resisting and manganese steel castings	One 2-ton and four 1-ton acid electric arc furnaces One ½-ton acid electric arc furnace One 2-ton basic electric arc furnace One 3-ton acid/basic electric arc furnace One 1100 kva induction furnace with two 1-ton pots One 500 kva induction furnace with two 1-ton pots One 250 kva induction furnace with two 0.3-ton pots One 175 kva induction furnace with two 0.4-ton

Lake Ontario Steel Company Limited Hopkins Street South Whitby, Ontario L1N 5T1	Whitby	910 000	Carbon and low alloy steel billets	Two 65-ton electric furnaces (45,000 kva each) Two 3-strand continuous casting machines for billets 5½", and 5" x 7 3/8" One 130-ton electric furnace (95,000 kva) One 4-strand continuous casting machine for billets 5½" and 5" x 7 3/8"
Stelco Inc. Hamilton Works Hamilton, Ontario L8N 3T1	Hamilton	5 261 650	Carbon and alloy steel ingots	Five basic open-hearth furnaces (four 315-ton and one 500-ton) Three 140 NT basic oxygen steelmaking furnaces Five 175 NT, eight 200 NT and ten 250 NT mixer-type ladle cars
Stelco Inc. Lake Erie Works Nanticoke, Ontario N0A 1L0	Nanticoke	1 164 800	Carbon and low alloy steel continuous cast slabs	Two 250 NT basic oxygen steelmaking furnaces One 2-strand continuous casting machine for slabs (30" to 74" wide x 7.9" and 9.5" thick)
Welmet Industries Limited 317 King Street West P.O. Box 370 Welland, Ontario L3B 3K2	Welland	15 600	Stainless and heat-resistant high alloy steel, manganese and carbon steel castings, ductile iron castings Stainless steel valves	One 6-ton electric furnace (3,000 kva) One 3½-ton electric furnace (1,500 kva); one 2-ton electric furnace (1,500 kva) One 500-lb induction furnace; one 300-lb induction furnace One 8-ton electric furnace (2,500 kva)
MANITOBA				
Abex Industries Ltd. Amsco Canada Division 620 Laval Street Joliette, Quebec J6E 6H5	Selkirk	24 775	Austenitic manganese, carbon, low-, medium- and high-alloy steel castings Ni hard and high chromium irons	One 1½ ton, Moore top-charge basic, electric furnace (1,500 kva) One 1½ ton, Volta-type, top charge basic electric furnace (2,000 kva) One 750 kva induction melting furnace
Griffin Canada Inc. P.O. Box 310 St-Hyacinthe, Quebec J2S 7B6	Winnipeg	95 000	Cast steel freight car wheels	Two 8-ton Heroult electric furnaces (5,000 kva each) One 8-ton Lectromelt electric furnace (8,000 kva)
Hudson Bay Mining and Smelting Co., Limited P.O. Box 1500 Flin Flon, Manitoba R8A 1N9	Flin Flon	73	Iron, steel and brass castings	One ½-ton, Lectromelt electric furnace (500 kva total) One 250-lb, oil-fired, crucible furnace
Manitoba Rollings Mills A unit of Amca International Limited Box 2500 Selkirk, Manitoba R1A 2B4	Selkirk	275 000	Carbon-steel and low alloy-steel billets	One 50-ton electric furnace (36,000 kva) One 50-ton electric furnace (12,500 kva) Two 2-strand continuous casting machines for billets 5" to 8" square

Operator	Location of Plant	Annual Capacity (tonnes)	Product	Principal Equipment
SASKATCHEWAN				
A-1 Steel and Iron Div. Ardiem Industrial Corporation 824 - 51st Street East Saskatoon, Saskatchewan S7K 0X8	Saskatoon	5 000	Stainless, manganese carbon, low alloy, ductile iron, nickel alloy, iron castings	Three 2,000 lb. induction furnaces Heat treat facilities Complete quality control department Pattern department and limited machining Spectrometer c/w digital computer Tensile tester
Interprovincial Steel and Pipe Corporation Ltd. P.O. Box 1670 Regina, Saskatchewan S4P 3C7	Armour Siding, Regina	680 000	Steel ingots	One 40-ton Heroult electric furnace One 100-ton Heroult electric furnace One 125-ton Empco U.H.P. furnace One 140-ton Empco U.H.P. furnace
ALBERTA				
Irving Industries (Foothills Steel Foundry Division) Ltd. 6711 Fairmount Drive S.E. Calgary, Alberta T2H 0X6	Calgary	3 600	Mild, low alloy, manganese and stainless steel, Ni hard castings	One 2½-ton, basic, electric furnace (1,000 kva) One 2½-ton, basic, electric furnace (750 kva) One Jarrell-Ash spectrometer
Stelco Inc. Edmonton Steel Works P.O. Box 2348 Edmonton, Alberta T5J 2R3	Edmonton	272 150	Continuous cast billets	Two 75-ton electric furnaces (40/45 mva each) One continuous casting machine, 3 strands (4½" to to 8" square) billets and (5½"x4½", 8½"x4½", 8½"x5½") slabs
Western Canada Steel Limited 450 Southeast Marine Drive Vancouver, British Columbia V5X 2S9	52nd St. & 26th Ave. S.E., Calgary, Alta.	100 000	Steel ingots	One 30-ton electric furnace (10,000 kva)
BRITISH COLUMBIA				
A-1 Steel Div. Ardiem Industrial Corporation 1660 Station Street Vancouver, British Columbia V6A 2Y1	Vancouver	11 000	Carbon, low alloy Hadfield manganese, stainless steel castings and brass aluminum	One 5-ton basic-lined electric furnace (4,000 kva) Complete quality control department Spectrometer Pattern shop Machine shop Four gas-fired furnaces for nonferrous metals Full chain assembly facilities Complete welding department Pull tester to 300,000 lbs Dip paint shop

Cae Machinery Ltd. 3550 Lougheed Hwy. Vancouver, British Columbia V5M 2A3	Vancouver	6 000	Mild, alloy, stainless steel castings Ductile iron castings Iron castings	One 3-ton, basic-lined, direct arc, electric furnace (1,500 kva) One 1-ton, basic-lined, direct-arc, electric furnace (900 kva)
Esco Limited 400 - 4585 Canada Way Burnaby, British Columbia V5G 4L5	Port Coquitlam	11 000	High and low alloy steel castings Stainless steel castings Hadfield manganese	One 5-ton Lectromelt electric furnace (4,500 kva) One 2,000-lb induction furnace (300 kva) One 1,000-lb induction furnace (300 kva) Heat treating facilities
Highland Foundry Ltd. 9670 187th Street Surrey, British Columbia V3T 4W2	Surrey	2 720	Stainless, heat resistant, HSLA, carbon and manganese steel castings, iron, ductile iron, nickel alloys	One 2,000 lb induction furnace (500 kw) One 1,200 lb coreless induction furnace (350 kw) One 1,200 lb coreless induction furnace (250 kw) Two 600 lb coreless induction furnaces (125 kw) One 250 lb coreless induction furnace (125 kw)
Reliance Foundry Company Limited 7764 - 129 A Street North Surrey, British Columbia V3W 4H7	North Surrey	4 000	Mild, low alloy, stainless and manganese steel castings and malleable iron castings	One 3-ton, Lindberg Hevi-duty, top-charge, direct arc electric furnace with interchangeable (one acid, one basic) furnace shells (1,200 kva)
Victoria Machinery Depot Co., Limited P.O. Box 670 Victoria, British Columbia V8W 2P3	Victoria	2 800	Alloy, mild steel and iron castings	One 1½-ton, acid-lined, electric furnace (500 kva) One 2-ton, acid-lined, electric furnace (500 kva)
Western Canada Steel Limited 450 Southeast Marine Drive Vancouver, British Columbia V5X 2S9	Vancouver	175 000	Steel ingots	One Rokop 4-strand continuous casting machine 5½" to 8" square One 80-ton electric furnace (36,000 kva)

STEEL ROLLING MILLS

NOVA SCOTIA

Enheat Inc. 100 Main Street Sackville, New Brunswick E0A 3C0	Amherst (Plant 4)	18 150	Concrete reinforcing bars, merchant bars, survey stakes and caps	Heating furnaces: One continuous, oil-fired, billet heating furnace, hearth size 12' x 26' One continuous, oil-fired, reheat furnace, hearth size 7' x 8' Mills: One 16", 2-stand, 3-high, bar mill and one 9", 4-stand, 3-high, guide mill (combined mill)
Sydney Steel Corporation P.O. Box 1450 Sydney, Nova Scotia B1P 6K5	Sydney	816 500	Blooms, billets, slabs, rails, tie plates, mine arch, mine arch splice bars and bars	Heating furnaces: Two-coke-oven-gas and/or oil-fired continuous heating furnaces Sixteen single, coke-oven-gas and/or oil-fired soaking pits One bloom reheat furnace, coke-oven-gas and/or oil-fired

Operator	Location of Plant	Annual Capacity (tonnes)	Product	Principal Equipment
NOVA SCOTIA (cont'd)				
Sydney Steel Corporation (cont'd)				Mills: One 40", 1-stand, 2 high, reversing blooming mill One 16", 7-stand, 2-high, continuous billet mill One semi-continuous bar mill with 12", 6-stand, 2-high roughing and three trains of 2 stand each 10½" and 9½" finishing One 28" rail mill consisting of 3-high roughing, 3-high intermediate and 2-high finishing One rail finishing mill; includes a vertical and horizontal roller rail straightener, four milling and drilling machines, three saw and drill machines, one hydraulic press and one gag press One continuous casting machine
QUEBEC				
Atlas Steels Division of Rio Algom Limited Welland, Ontario L3B 5R7	Tracy	67 500	Stainless steel sheet and strip in widths up to 48"	Hot mill: One 52" hot planetary mill Cold mills: Two 50" Sendzimir mills for cold sheet and strip (clusters of 20 rolls with 2½" work rolls) One 2-high temper mill Two horizontal anneal and pickle lines One vertical bright anneal furnace Equipment for edging, slitting, grinding, polishing and cutting
Sidbec-Dosco Inc. Longueuil Works 2555 chemin du Lac Longueuil, Quebec J4N 1C1	Longueuil	272 000	Merchant and reinforcing bars, structural sections and special bar quality	Heating furnaces: One continuous gas-fired walking beam furnace Mill: One Birdsboro continuous 16 strand bar mill 3-21" stands 2 horizontal 1 vertical 3-17" stands 2 horizontal 1 vertical 4-14" stands 3 horizontal 1 vertical 6-12" stands 3 horizontal 1 vertical 1 convertible 6-12" stands 3 horizontal 1 vertical
Sidbec-Dosco Inc. Montreal Works 5870 St. Patrick Street P.O. Box 67 Montreal, Quebec H3C 2R4	Montreal	270 000	Merchant and reinforcing bars, structural sections Cold-forged bolts, hi-strength bolts Heavy and fine, high an	Heating furnaces: One continuous gas- or oil-fired furnace Mills: One 18", 4-stand 3-high, 1-stand 2-high merchant mill Wire plant:

			low carbon wires, steel nails Continuous buttweld pipe and nipples	High- and low-carbon wire mills and wire galvanizing Pipe mill: One continuous buttweld pipe mill (3/8" through 4" range) Galvanizing pan Nipple shop
Sidbec-Dosco Inc. Contrecoeur Works P.O. Box 100 Contrecoeur, Quebec J0L 1C0	Contrecoeur	300 000 round products 400 000 flat products	Merchant reinforcing bar in bar form and in coils, controlled cooled rods in coils; hot and cold rolled sheet and strip	Rod and Bar mill: One continuous gas- or oil-fired billet heating furnace One 24-stand, continuous rod and bar mill Two Schloemann controlled cooling lines Two pouring reels, 350' hot bed Hot mills: One rotary-hearth slab heating furnace One reheating slab furnace One 45" x 110", 2-high, reversing universal breakdown mill with one 44" x 30" vertical edger One 27" and 49" x 66", 4-high, reversing hot strip mill with hot coilers including hydraulic automatic gauge control Cold mills: One coil build-up line One combination blast cleaning and pickling line One 50" Sendzimir mill for cold reduction of sheet and strip with 3" work rolls One rewind and cleaning line Single-stack annealing facility One 31" x 56", 2-high, temper mill One cold rolled slitting line Two shear lines
Stelco Inc. McMaster Works Hamilton, Ontario L8N 3T1	Contrecoeur	213 200	Merchant bar, reinforcing bar, light structural shapes and special sections	18" finishing mill, three 3 high 18" roughing stands and one 2 high 18" finishing stand 12" finishing mill, four 2 high 12" finishing stands
ONTARIO				
Algoma Steel Corporation, Limited, The Steelworks Division Sault Ste. Marie, Ontario P6A 5P2	Sault Ste. Marie		Steel products: ingots, blooms, billets and slabs, wide flange shapes, welded wide flange shapes, H bearing piles, standard angles, channels and beams, elevator tees, zees, heavy and light rails, tie plates and splice bars, hot-rolled bars, reinforcing bars,	Soaking pits: 21 regenerative 60 tons Nine recuperative 100 tons one-way top-fired Nine recuperative 120 tons one-way top-fired Six recuperative 140 tons one-way top-fired Heating and annealing furnaces: Two walking beam, non-recuperative for 166" plate mill and 106" strip mill Two continuous, non-recuperative for 46"-122" plate mill Two continuous, non-recuperative for 30" rail and structural mill

Operator	Location of Plant	Annual Capacity (tonnes)	Product	Principal Equipment
ONTARIO (cont'd)				
Algoma Steel Corporation, Limited, The (cont'd)			forged steel grinding balls, grinding rods, hot-rolled sheet, cold-rolled sheet and strip Plate: sheared and gas cut - universal mill - floor	One continuous, non-recuperative for 18" merchant mill One rotary, non-recuperative for splice bar mill One continuous, non-recuperative for bar and strip mill Five-hearth, non-recuperative for ball mill Seven Lee Wilson, bell-type for 30" cold mill Seventeen Salem Ludwig, bell-type for 80" cold mill Blooming mills: One 45", 1-stand 2-high, reversing blooming mill One 46", 1-stand 2-high, reversing slabbing mill Plate mill: One 52" x 126", 1-stand, 2-high reversing rougher mill One 40" x 67" x 166", 1-stand, 4-high reversing finishing mill Billet mill: One 25", 6-stand, 2-high horizontal and 2-stand, 2-high, vertical continuous billet mill Rail and structural mills: One 32", 1-stand 2-high reversing breakdown mill One 30", 2-stand 3-high and 1-stand 2-high cross country mill One wide flange beam mill comprised of one 50" universal roughing mill, one 36" edging mill and one 50" universal finishing mill Welded wide flange beam mill: One 24" to 72" line with two submerged arc Automatic welding machines (operated by Amca International Limited) Merchant bar and light structural mill: One 18" 4-stand (three 3-high and one 2-high) cross country mill Combination bar and strip mill: One 22" x 36", 5-stand 2-high; one 16" x 30" 2-stand 2-high; one 14" x 30" 4-stand 2-high and one 12" x 30", 2-stand 2-high continuous bar mills One 24", two 16" and two 12" vertical edgers One 22" x 36", 5-stand 2-high; one 16½" x 32" x 36" 2-stand 4-high and 15 1/16" x 32" x 36" 4-stand 4-high continuous flat rolled strip mills; one 24", two 16" and two 12" vertical edgers

Atlas Steels **Division of Rio Algom Limited** **Welland, Ontario** **L3B 5R7**	Welland	315 000	Tool, alloy, carbon and stainless steels: bars, billets, hollow and solid rock mining drill steel, machinery steels Stainless steel: hot-rolled sheets to 60" wide and strip to 18" wide, plate to 72" wid and bar, wire and special forged and machined sections	Wide hot strip mill: One 30½" and 61" x 106", 6-stand 4-high continous mill Cold mills: One 20½" and 61" x 80" 1-stand 4-high reversing cold reduction mill One 23" and 61" x 80" 1-stand 4-high reversing temper mill One 12" and 33" x 34" 1-stand 4-high reversing cold reduction mill One 22" x 33½" 1-stand 2-high single pass temper mill Grinding ball mill: One, five lines Heating furnaces: Seventeen 1-hole, oil- or gas-fired, soaking pits One oil- or gas-fired continuous billet-heating furnace One oil- or gas-fired low/high zone walking beam billet heating furnace Four 6-door, oil- or gas-fired, heating furnaces One rotary-type, heating furnace, oil- or gas-fired Seven batch-type, heating furnaces, gas-fired One gas-fired, continuous, slab-heating furnace Mills: One 26" 1-stand, 2-high, reversing blooming mill One 22" 1-stand, 3-high, billet mill One 16"-10" 13-stand, 3-high, merchant bar mill (2-18", 4-16", 2-10") One 16"-10" 7-stand, 3-high, merchant bar mill (2-16", 5-10") One 2-stand, 2-high, 29" x 60" hot sheet mill One 32" x 20" hot planetary strip mill One 22½" x 30" 2-high, hot-finishing strip mill Three 19" Sendzimir cold strip mills One 18" x 24" temper strip mill Forging heating furnaces: Two 6-door, three 2-door and one 1-door, oil- or gas-fired furnaces Four 4-door, two 3-door and two 2-door, oil- or gas-fired heating furnaces Forging equipment: One 1,200-ton steam-operated, forging press One 12,000-lb, one 8,000-lb, one 4,000-lb One 2,000 ton hydropneumatic forging press Heat treating furnaces: One continuous bright-anneal electric furnace for strip (vertical) Twenty-nine oil- or gas-fired, car-type furnaces One electric, double-chamber, car-type furnace

Operator	Location of Plant	Annual Capacity (tonnes)	Product	Principal Equipment
ONTARIO (cont'd)				
Atlas Steels (cont'd)				One bell-type, gas-fired, heat-treating furnace Four electric salt-bath furnaces Four electric muffle furnaces Two vacuum furnaces, electric heated for coil products Two continuous, gas-fired, strip anneal furnaces Two salt Descale gas-fired pots One sheet anneal furnace, roller hearth, gas-fired Five car bottom tip-up furnaces Three high heat draw furnaces Two low heat draw furnaces
Burlington Steel Division of Slater Steel Industries Limited 319 Sherman Avenue North Hamilton, Ontario L8N 3P9	Hamilton	260 000	Low alloy, special bar and merchant quality steels, steel rounds, squares, flats, special shapes. Concrete reinforcing bar. Forged steel grinding balls	Heating furnace: One gas-fired walking beam furnace Mills: One 30" 1-stand, 2-high, bloom breakdown mill One 21" 1-stand, 3-high, bloom breakdown mill Two 16" in line roughing stands Six 14"/12" stands in line Two Hill-Acme grinding ball machines
Courtice Steel Limited 173 Baseline Road East, Bowmanville, Ontario L1C 3L4	Bowmanville	75 000	Special Bar Quality and low alloy bars. Concrete reinforcing bars. Rounds, squares, flats, angles, channels and special shapes. Merchant quality bars	Heating furnace: One gas-fired pusher type Mills: Two 14" stands 3-high roughing Five 10" stands 3-high cross-country Two 9" stands 2-high finishing
Dofasco Inc. Burlington Street East P.O. Box 460 Hamilton, Ontario L8N 3J5	Hamilton		Steel plate, skelp, hot-rolled sheets, coils and strip, galvanized sheets and coils and strip; cold-rolled sheets, coils and strip; electrical sheets, coils and strip; enamelling sheets, coils and strip; electrolytic tin plate, sheets and coils; tin-free steel, sheets and coils; tin mill black plate, sheets and coils; precoated steels	Heating furnaces: Fifty soaking pits, gas- and oil-fired Mills: One 45" x 88" slabber One 38" x 66", 1-stand 2-high roughing mill One 28" x 52" x 66", 4-high, 7 stand hot strip mill One 16" x 43" x 42", 4-high, reversing cold-rolling mill One 11½" x 34" x 36", 4-high, reversing cold-rolling mill One 21½" x 56" x 56", 4-high, 5-stand, continuous cold-rolling mill One 16½" x 54" x 66", 4-high, reversing cold-rolling mill

				One 14" x 56" x 56", 4-high reversing cold-rolling mill One 16½" x 58" x 56", 4-high reversing cold-rolling mill One 24" x 60" x 72", 4-high, 5 stand, continuous cold-rolling mill Pickling and cleaning equipment: One 54" continuous pickling line One 74" continuous pickling line One 72" continuous pickling line One 42" electrolytic cleaning line One 72" electrolytic cleaning line Annealing furnaces: Two continuous electric annealing furnaces Sixty-nine gas-fired annealing furnaces and 7 open coil annealers with a total of 187 bases Cold finishing mills: One 2-stand, 4-high, temper mill 21½" x 56" x 56" and 21½" x 56" x 56" stands One 2-stand, 4-high, temper mill 12" x 42½" x 42" and 18½" x 43½" x 42" stands One 1-stand, 4-high, temper mill 18" x 48" x 66" One 1-stand, 4-high, temper mill 21½" x 56" x 66" Coating equipment: Three continuous electrolytic tinning lines (one 36" and two 45") Four Armco Sendzimir-type, continuous galvanizing lines (two 60" and two 48") Electrical steel facilities: Two 48" continuous annealing lines One continuous combination heat-treating and varnish-coating line (core-plate line) Forty-seven annealing furnaces with 60 bases for high-temperature annealing One tunnel furnace line
Ivaco Rolling Mills Division of Ivaco Inc. P.O. Box 322 L'Orignal, Ontario K0B 1K0	L'Orignal	450 000	Wire rods	Furnace: One gas-fired pusher type billet reheat furnace Mill: One two-strand rod mill
Lake Ontario Steel Company Limited Hopkins Street South Whitby, Ontario L1N 5T1	Whitby	384 000 470 000	Special bar quality carbon and low alloy bars Concrete reinforcing bars, merchant mill products, low alloy bars, grader blades and structural angles and channels	Heating furnaces: Two gas- or oil-fired pusher type reheat furnaces One Structural Mill: Four 16", 2-high roughing stands Two 14", 2-high intermediate stands Four 16", 2-high finishing stands One Continuous Bar Mill Four 21", 2-high horizontal roughing stands Three 21", 2-high vertical roughing stands Six 16", 2-high intermediate stands Four 13", 2-high finishing stands

Operator	Location of Plant	Annual Capacity (tonnes)	Product	Principal Equipment
ONTARIO (cont'd)				
Stanley Canada Inc. 65 Imperial Street Hamilton, Ontario L8L 7V2	Hamilton	80 820	Cold-rolled strip steel	Furnaces: Six-electric annealing furnaces (15 bases) Six gas-fired furnaces (14 bases) Mills: One 9" x 24" x 24", 4-high, reversing mill One 12½" x 16", 1-stand, cold-rolling mill One 12½" x 16", 2-stand, tandem, cold-rolling mill Three 48" slitting lines including one at Pointe Claire, Quebec One 6" straightening, edging and cutting line Two 18" slitting line Two 12" oscillating slitting lines One 24" slitting line One 6" coil edging line One 12" cutting line Four 12' squaring shears including two at Pointe Claire, Quebec Two 4' squaring shears including one at Pointe Claire, Quebec One 24" strapping slitting line One 10 strand strapping heat-treat line One 330 x 420 x 1 067 mm 6-high reversing mill
Stelco Inc. Hilton Works Hamilton, Ontario L8N 3T1	Hamilton		Blooms, billets, slabs, wire rods, hot-rolled products including carbon and alloy merchant bars, bolt, nut and spike, rods, light structural shapes, railway spikes, tie plates, reinforcing bars, washers, etc. Ships, tank structural sheared and universal plate Hot rolled coils, sheet and strip; cold-reduced including galvanized coils, sheet and strip; blackplate coils, sheet and strip; electrolytic tinplate coils, sheet and strip; E.C.C.S. coils, sheet and strip	Heating furnaces: Thirty-seven 2-hole rows of soaking pits Five oil- or gas-fired, continuous bloom and billet heating furnaces Seven oil- or gas-fired, continuous slab heating furnaces Mills: One 46", 2-high, universal slabbing mill with 36" vertical edgers on entry side One 44", 1-stand, 2-high, reversing blooming mill One 34", 1-stand, 2-high, reversing blooming mill One 18", 8-stand, 2-high, continuous billet mill, including 2-stands of vertical edgers One 54", 1-stand reversing bloom mill One 30"-24", 6-stand, 2-high continuous billet mill including 3-stands of vertical edgers One rod mill, 2-high, continuous, 19 horizontal, 2 vertical, 32 finishing stands One 12"-10", 14-stand, 2-high, continuous bar mill (twelve 12", two 10") One 12"-10", 10-stand, 2- and 3-high, bar mill (two 18" and two 16", 2-high, two 13", 3-high, two 13" 2-high, two 10" 2-high)

One 10"-9", 8-stand, 2- and 3-high, bar mill (three 10" 3-high, three 10" 2-high, two 9" 2-high)
One 20", 3-stand, 2- and 3-high, bar mill (two 20" 3-high, one 20" 2-high)
One 148", 2-stand, reversing plate mill (one 2-high, one 4-high)
One 110", 1-stand, 4-high, reversing breakdown mill for 56" hot strip mill
One 56", 6-stand, 4-high, continuous hot strip mill
One 56", 5-stand, 4-high, cold reduction mill
One 56", 1-stand, 4-high, reversing cold reduction mill
One 80", 4-stand, 4-high, continuous cold reduction strip mill

Spike department:
One natural gas fired spike rod reheating furnace
Three spike-making machines (cannot be worked simultaneously)

Washer department:
Six washer-making machines
One punch press

Tie plate-finishing:
One punch press

Strip, sheet, and tin plate processing pickling machines:
Three continuous pickling lines (two 56", one 80")

Galvanizing lines:
Two 48" continuous galvanizing lines
One 60" continuous galvanizing line

Tin plate lines:
One 38" electrolytic tinning line
Two 45" electrolytic tinning lines

Cold finishing, etc.
One 60", 1-stand, 2-high, skin mill
One 56", 2-stand, 4-high, tandem continuous temper mill
One 56", 1-stand, 2-high, cold finishing mill
One 56", 1-stand, 4-high, continuous temper mill
One 80", 1-stand, 4-high, continuous temper mill

Cleaning line:
One 45" electrolytic cleaning line

Treatment furnaces:
Twenty-eight gas-fired, 4-pile coil radiant tube annealing covers (66 bases)
Four gas-fired, radiant tube, sheet annealing furnaces
One gas-fired, sheet-normalizing furnace
Two continuous tin plate annealing lines
Six gas-fired, 1-pile coil radiant tube annealing covers (18 bases)

Operator	Location of Plant	Annual Capacity (tonnes)	Product	Principal Equipment
MANITOBA				
Manitoba Rolling Mills A Unit of Amca International Limited P.O. Box 2500 Selkirk, Manitoba R1A 2B4	Selkirk	250 000	Steel reinforcing merchant bars, flats, rounds, squares, angles, special sections, etc.	Heating furnaces: Split hearth walking beam fired with natural gas Mills: 1 continuous mill comprising: 1-2 high reversing rougher - 24" 8 stands 26" x 28" x 16" (6 horizontal, 2 vertical) intermediate 6 stands 12" (4 horizontal, 2 vertical) finishing 2-20" horizontal stands 6-15/18" stands (2 vertical, 4 horizontal)
SASKATCHEWAN				
Interprovincial Steel and Pipe Corporation Ltd. P.O. Box 1670 Regina, Saskatchewan S4P 3C7	Armour Siding, Regina	680 000	Steel plate, skelp, strip, hot rolled sheets, plates and coils	Heating furnaces: Fourteen 100-ton gas-fired soaking pits Mills: One 46" x 120" high lift 2-high combination plate and slabbing mill One 29" and 49" by 79" 4-high reversing hot strip mill with hot coilers One 28" x 63" x 80" 4-high reversing hot strip mill with hot coilers One 72" x 3/8" sheet and plate cut to length line One 72 x ½" coil slitting line
ALBERTA				
Stelco Inc. Edmonton Steel Works P.O. Box 2348 Edmonton, Alberta T6E 2A0	Edmonton	244 900	Full range of merchant mill steel products	Heating furnace: One double-row, gas-fired, walking beam furnace, 65 tph Mills: One 21/18", 6-stand, 2-high roughing mill One 14/12", 5-stand, 2-high intermediate mill One 18/14", 3-stand, 2-high intermediate mill One 12/14", 3-stand, 2-high finishing mill One 19" vertical edger
			Grinding balls	Three grinding ball mills 1" to 5"
Western Canada Steel Limited 450 Southeast Marine Drive Vancouver, British Columbia V5X 2S9	52nd St. & 26th Ave. S.E., Calgary	100 000	Concrete reinforcing bars	Heating furnace: Gas-fired with a capacity of 40 tph Mills: One 20", 1-stand roughing mill One 16", 1-stand, roughing mill One 14", 5-stand, finishing mill

BRITISH COLUMBIA

Western Canada Steel Limited 450 Southeast Marine Drive Vancouver, British Columbia V5X 2S9	Vancouver	120 000	Merchant bars, concrete reinforcing bars, light structurals	Heating furnace: One double-row, natural gas fired 50 tph walking beam furnace Mills: One 18", 2-stand, 2-high tandem roughing mill One 16", 2-stand, 2-high tandem roughing mill One 16", 1-stand, 3-high, intermediate roughing mill One 12", 4-stand, 3-high, merchant mill One 12", 1-stand, 2-high, merchant mill

COLD DRAWN STEEL PLANTS

ONTARIO

Atlas Steels Division of Rio Algom Limited Welland, Ontario L3B 5R7	Welland	35 000	Cold-finished carbon, alloy and stainless steel bars. Finished as cold-drawn, cold-drawn and ground, turned and ground, turned and polished	Cold drawn equipment: Two coil heat-treating furnaces, gas-fired Two strand, heating furnaces, gas-fired Two hood-type controlled atmosphere gas-fired annealing furnaces for coils Fifteen single-type blocks One continuous-type block One 50,000 lb drawbench One 250,000 lb triple drawbench Two centreless bar turners Ten centreless grinders Four straighten and cut machines Four bar straighteners Two polishers Cleaning equipment: Two shot blast lines for slabs and bars
Laurel Steel Products Ltd. 5400 Fairview Street Burlington, Ontario L7L 5N5	Burlington	12 000	Cold finish carbon, alloy steel bars, and wire in rounds, hexagon squares and special shapes	Various continuous drawing lines Bull blocks Straightening machines Continuous wire blocks
Stelco Inc. Canadian Drawn Works 155 Chatham Street Hamilton, Ontario L8N 3T1	Hamilton	54 430	Cold-finished carbon, leaded, alloy steel bars and shafting; cold-drawn, cold-drawn and ground, turned and ground, turned and polished	Four continuous drawing lines Two drawbenches Two turning and polishing machines Four centreless grinders Two controlled atmospheric annealing furnaces
Union Drawn Steel Company, Limited 1350 Burlington Street East Hamilton, Ontario L8N 3A2	Hamilton	76 460	Cold-finished carbon, leaded and alloy steel bars in rounds, hexagons, squares, flats and special shapes.	Cold drawing equipment: One annealing car-type furnace - gas fired One 22,000 lb continuous coil drawing line One coil block - single type One 50,000 lb drawbench

Operator	Location of Plant	Annual Capacity (tonnes)	Product	Principal Equipment
ONTARIO (cont'd)				
Union Drawn Steel Company (cont'd)			Finished as cold drawn; cold drawn and ground; turned and ground; and cold drawn, turned and ground	One 75,000 lb drawbench One 150,000 lb automated cold draw bar line (triple draw) Four centerless grinders Three straighten and cut machines Five bar straightener/polisher Two shape straighteners One automatic centerless bar turner Two production band saws One roto bar tester One multi-method magnetic eddy current tester Cleaning equipment: Two coil blast lines Three bar blast lines
FERROALLOY PLANTS				
NEWFOUNDLAND				
ERCO Industries Limited 2 Gibbs Road Islington, Ontario M9B 1R1	Long Harbour	68 000 (phosphorus)	Ferrophosphorus and phosphorus	Two furnaces (60 megawatts each)
QUEBEC				
Chromasco Limited 130 Adelaide Street West P.O. Box 1160 Station A Toronto, Ontario M5W 1G5	Beauharnois	60 000	Ferrosilicon: 50%, 75%, and 85% ferro-manganese, silico-manganese, magnesium ferrosilicon	Two special design, electric furnaces (7,000 kw each) One special design, electric furnace (18,000 kw) One special design, electric furnace (24,000 kw)
Eldorado Gold Mines Inc. 2147 Portage Avenue Winnipeg, Manitoba R3J 0L5	Duparquet	8 100	Molybdenum oxide, ferromolybdenum	
ERCO Industries Limited, 2 Gibbs Road Islington, Ontario M9B 1R1	Varennes	23 000 (phosphorus)	Ferrophosphorus and phosphorus	Two 20,000 kva phosphorus furnaces
SKW Canada Inc. 4045 Côte Vertu Boulevard Montreal, Quebec H4R 1R6	Bécancour	27 000 23 000	Ferrosilicon: 50%, 75% Silicon metal	Three furnaces two 20 megawatt, one 30 megawatt
Unicorn Abrasives of Canada Limited Division Fusion du Saguenay Arvida, Quebec G7S 4K6	Arvida	450	Byproduct ferrosilicon: 12-16% grade	Plant closed June 1982.

Union Carbide Canada Limited 123 Eglinton Avenue East Toronto, Ontario M4P 1J3	Beauharnois	165 000	Ferrosilicon, 45%, 50%, 75%, 80% and 90% grades. Silicon metal. Other ferroalloys. Ferro-manganese and silico-manganese	Two 25,000 kva covered electric furnaces Two special design (15,000 and 18,000 kva) rotating-hearth electric furnaces One 72,000 kva special design electric furnace
	Chicoutimi	22 700	Ferrosilicon, 50%, 75% and 85%	One 35,000 kva, special design rotating-hearth electric furnace
ONTARIO				
Carborundum Canada Inc. Electro Minerals Division P.O. Box 1007 Niagara Falls, Ontario L2E 6W5	Niagara Falls	10 900	Byproduct ferrosilicon: 15-17% grade	Seven casting furnaces (1,000 to 15,000 kw)
Exolon Company of Canada, Ltd., The P.O. Box 280 Thorold, Ontario L2V 3Z2	Thorold	2 720	Byproduct ferrosilicon: 12-16% grade	Eight 5-ton Higgins furnaces Six casting furnaces (1,300-4,000 kw)
General Abrasive Operations Dresser Canada, Inc. 3807 Stanley Avenue Niagara Falls, Ontario L2E 6T8	Niagara Falls	2 400	Byproduct ferrosilicon: 12-16% grade	Two casting furnaces
Masterloy Products Limited P.O. Box 965 R.R. #6 Ottawa, Ontario K1G 3N4	Doncaster Road Gloucester Township	1 815	Ferromolybdenum, ferrovanadium, nickel-based alloys	Ferroalloys produced exothermically and crucible-melted, nickel-based alloy additives
Norton Company 8001 Daly Street Niagara Falls, Ontario L2G 6S2	Niagara Falls	1 815	Byproduct ferrosilicon: 9-20% grade	Nine 5-ton Higgins electric furnaces, one 50-ton electric furnace capacity equivalent to nine Higgins electric furnaces Eight casting furnaces (1,000 to 5,500 kw)

STEEL CONTINUOUS CASTING PLANTS

Company	Location/ Starting Date	Annual Capacity (tonnes)	No. of Strands	Billets, Blooms, Slabs	Ladle Capacity (net tons)/ Type of Mold/ Steel to be Cast
Algoma Steel Corporation, Limited, The	Sault Ste. Marie/ 1967	453 600 for the two machines	4	10¼" x 9" to 10¼" x 14"	110 Curved Carbon, low alloy
	Sault Ste. Marie/ 1968		2	Up to 30" wide and various shaped sections	110 Curved Carbon, low alloy
	Sault Ste. Marie/ 1979	907 200	2	8" to 10" thick x 40" to 85" wide	260 Curved Carbon, low alloy
Atlas Steels Division of Rio Algom Limited	Tracy/ 1964	68 038	1	5" x 39", 5" x 42" 5" x 52"	60 Curved Stainless, carbon alloy
Burlington Steel, Division of Slater Steel Industries Limited	Hamilton/ 1970	330 000	2 machines with 3 strands each	4" x 6¼" and 4" square 5" x 7"	65, 45 Lowhead, curved Carbon, low alloy
Courtice Steel Limited	Cambridge/ 1981	60 000	2	4" square	25 Lowhead, curved Carbon, low alloy
Lake Ontario Steel Company Limited	Whitby/ 1964	455 000	2 machines with 3 strands each	5¼" and 5" x 7 3/8" square	65 High head, straight Carbon, low alloy
		455 000	1 machine with 4 strands	5¼" and 5" x 7 3/8"	130 Lowhead, curved Carbon, low alloy
Manitoba Rolling Mills A Unit of Amca International Limited	Selkirk/ 1966	275 000	2 machines with 2 strands each	5½" to 7 5/8" square	50 Lowhead, curved Carbon, low alloy
Sidbec-Dosco Inc.	Longueuil/ 1974, 1976	300 000	2 machines 3 strands each	4" to 8" square	65 Curved Carbon, low-medium alloy
	Montreal/ 1965	190 000	4	3½", 4¼", 5 3/8" and 6¼" square	48 Lowhead curved Carbon, low alloy
	Contrecoeur/ 1972	300 000	6	3½" to 7" square	120 Lowhead curved Carbon

		300 000	6	3½" to 4½" square	120 Carbon
		600 000	1	7" x 28/60"	150 Straight with bending Carbon
Stelco Inc. Edmonton Steel Works	Edmonton/ 1974	272 150	3	4½" to 8" square, 5½" x 4½", 8½" x 4½", 8½" x 5½" slabs	75 Vertical, bent before cutting Carbon, low alloy
Stelco Inc. McMaster Works	Contrecoeur/ 1974	263 100	4	3½", 4", 6" and 6.7" square	92/ Lowhead, curved Carbon, low alloy
Stelco Inc. Lake Erie Works	Nanticoke/ 1980	1 164 800	2	30" to 74" wide x 7.9" and 9.5" thick slabs	250 Curved Carbon, low alloy
Western Canada Steel Limited	Vancouver/ 1981	175 000	4	5½" square and 8" square	100 4 strand Rokop lowhead Carbon, low alloy One 4 strand curved mold lowhead

STEEL PIPE AND TUBE PRODUCERS

Company	Location of Plant	Annual Capacity (tonnes)	Pipe and Tubing Manufactured (normal end-use notation)	Size Range (O.D. in inches)	Remarks
Algoma Steel Corporation, Limited, The Tube Division Wallace Terrace Sault Ste. Marie, Ontario P6A 5P2	Sault Ste. Marie	240 000	Seamless pipe and tubes, oil well casing, line pipe, standard pipe, mechanical tubing and couplings	4½ - 12¾	One seamless mill
Arc Tube Inc. 59 Industrial Park Sault Ste. Marie, Ontario P6B 5P3	Sault Ste. Marie	9 080	Single wall seam welded steel tubing automotive, refrigeration, etc.	3/8, 3/16, 1/4, 5/16, 3/8	Two tube mills Copper cote, terne-cote, plain and arcote
Associated Tube Industries Limited 7455 Woodbine Avenue Markham, Ontario L3R 1A7	Markham	6 000	Stainless steel and nickel alloy pipe and tubing, as welded; welded and drawn and seamless. Heat exchanger, evaporator, ornamental, mechanical, instrumentation. Sheathing for electric range elements. Formed tubular parts	⅛ - 4½	16 tube mills, 8 furnaces, 4 draw benches, 3 polishers subsidiary of Samuel, Son & Company Limited, Mississauga

Company	Location of Plant	Annual Capacity (tonnes)	Pipe and Tubing Manufactured (normal end-use notation)	Size Range (O.D. in inches)	Remarks
Barton Tubes Limited Box 277 Burlington, Ontario L7R 3Y2	Burlington	40 000	Mechanical	½ - 4	Six high frequency induction weld mills Subsidiary of Barton Group P.L.C.
B.M.F. Laval Inc. 22 Boul. de l'Aéroport Bromont, Québec J0E 1L0	Bromont	15 000	Mechanical and structural	5/8 - 3½	One high frequency induction weld mill.
Brooks Tube Ltd. P.O. Box 1480 Brooks, Alberta T0J 0J0	Brooks	12 000	Welded pipe-line, oil, country and distribution	⅜ - 2 3/8	One ERW Mill Subsidiary of Interprovincial Steel and Pipe Corporation Ltd.
Bundy of Canada Limited 316 Orenda Road Bramalea, Ontario L6T 1G3	Bramalea and Cambridge	6 000	Double wall copper-brazed steel tubing; single wall seam welded steel tubing; hydraulic brake tubing system; automotive, refrigeration and plant applications; protective coatings	3/16 - 5/16	3 tube mills Subsidiary of Bundy Corporation, Detroit, Michigan
Canadian Phoenix Steel Products Division of York Russel Inc. 289 Horner Avenue Toronto, Ontario M8Z 4Y4	Toronto	25 500	Spiral-weld pipe for mechanical, structural and watermain applications	6 5/8 - 86	Three spiral-weld mills Privately-owned
General Instrument of Canada Ltd., Delhi Division 65 Waverly Street Delhi, Ontario N4B 1E8	Delhi	16 500	Pre-galvanized tubing, seam sprayed, flash-in	1 - 3	Two high-frequency induction weld mills
Harrow Tube Division of H.Z. & S. Management Inc. 200 Clark Street Harrow, Ontario N0R 1G0	Harrow	47 000	Mechanical and structural	1 - 5 round 1 - 4 square	Two high frequency induction weld tube mill
International Parts Manufacturing Limited 111 Manville Road Scarborough, Ontario M1L 4J2	Scarborough	20 000	Tubing for exhaust and tail pipe systems	1¼ - 2½	One electrical induction weld mill Subsidiary of Midas-International Corp. United States

Interprovincial Steel and Pipe Corporation Ltd. P.O. Box 1670 Regina, Saskatchewan S4P 3C7	Regina	18 500	Standard, line and structural tubing	2 3/8	One electric resistance weld mill
		82 000	Standard, line and structural pipe and oil country goods	3½ - 16	One electric resistance weld mill
		140 000	Standard and line pipe	16 - 80	Two double submerged arc spiral weld mills
	Brooks, Alberta	14 000	Standard, line, structural, heat exchanger and boiler tubing	½ - 3	One electric resistance weld mill
	Edmonton	140 000	Standard and line pipe	16 - 80	Two double submerged arc spiral weld mills
		140 000	Standard and line pipe and oil country goods	4½ - 16	One electric resistance weld mill
	Port Moody, B.C.	73 000	Standard, line, structural tubing and oil country goods both black and galvanized	½ - 4½	Two electric resistance weld mills
	Calgary	200 000	Oil country tubular goods	4½ - 10¾	One electric resistance weld mill with heat treating facilities
Prudential Steel Ltd. P.O. Box 1510 Calgary, Alberta T2P 2L6	Calgary	140 000	Standard and line pipe Oil country tubing and casing Hollow structural sections	2 3/8 - 10¾	Two high frequency electric resistance weld mills, pipe casting plant, threading mill and upsetting mill. Subsidiary of Dofasco Inc.
Sidbec-Dosco Inc. Montreal Works 5870 St. Patrick Street Montreal, Quebec H3C 2R4	Montreal	53 000	Standard and structural	1½ - 4	One continuous buttweld mill; facilities for galvanizing
Siegfried Krieser Industries Limited (M.B.F. Industries Inc.) 60 Signet Drive Weston, Ontario M9L 2Y4	Toronto (4 plants)	50 000	Mechanical tubing, H.S.S., oil country, and pipe sch. 10 and sch. 40	5/8 - 4½	Three electric resistance weld mills
		41 000	Mechanical, line, H.S.S., oil country	½ - 4	One high frequency mill
Sonco Steel Tube Limited 14 Holtby Avenue Brampton, Ontario L6X 2M1	Brampton	325 000	Mechanical and structural tubing, standard pipe, water well casing, oil and country	3/8 - 15	Nine electric resistance weld mills (4 structural, 4 mechanical, 1 pipe) with seam annealing finishing floor. Owned by Jannock Limited, Toronto.

Company	Location of Plant	Annual Capacity (tonnes)	Pipe and Tubing Manufactured (normal end-use notation)	Size Range (O.D. in inches)	Remarks
Stelco Inc. 100 King Street West Hamilton, Ontario L8N 3T1	Camrose, Alta.	272 000	Line	20 - 42	One submerged arc welded tube
	Camrose, Alta.	72 600	Standard, line, oil and country	4½ - 16	One electric resistance weld mill
	Contrecoeur, Que.	105 000	Standard, line, mechanical, pressure, structural and hollow structural sections	1/8 - 4	One continuous buttweld mill
	Welland, Ont.	181 500	Line and structural	20 - 36	One submerged arc welded tube mill
		544 000	Line and structural spiral-weld	36 - 60	One "Stelform" spiral-weld mill
		113 500	Standard, line, oil country, mechanical, pressure and structural	1/8 - 4	One continuous buttweld mill
		24 500		1/8 - 4½	One seamless mill
		39 500		½ - 4	Four electric resistance weld mills
		256 000	Line, standard and structural	2 3/8 - 16	Two electric resistance weld mills
Standard Tube Canada Inc. P.O. Box 430 Woodstock, Ontario N4S 7Y6	Woodstock, Ont.	120 000	Line, oil country, mechanical, pressure hollow structurals and dom tubing	½ - 8 5/8 shapes to 24" periphery	Five high frequency mills Four electric resistance weld mills Four drawbenches Two annealing furnaces
	Montreal, Que.	16 500	Tubing for furniture, bicyles, etc.	½ - 2½	One electric resistance weld mill One high frequency mill
	Winnipeg, Man.	6 000	Tubing for furniture, farm machinery, etc.	½ - 2½	Two electric resistance weld mills
	Vancouver, B.C.	9 000	Tubing for furniture, fencing, etc.	½ - 3	One electric resistance weld mill
Tubes Solac Limitée 25 Boul. John Kennedy St. Jérôme, Quebec J7Z 5V9	St. Jérôme, Que.	14 000	Mechanical	5/8 - 2	One high-frequency induction weld mill One electric resistance weld mill
Tubular Steel Products Division of Chartcan Inc. 7 Wabash Avenue Toronto, Ontario M6R 1N1	Scarborough, Ont.	30 000	Mechanical	3/8 - 3	One electric resistance weld mill Five high-frequency induction weld mills

Walker Exhausts Division of Tenneco Canada Inc. 500 Connestoga Boulevard Cambridge, Ontario N1R 5T7	Cambridge, Ont.	11 000	Tubing for exhaust and tail pipe systems	1½ - 2¾	One high-frequency induction weld mill Subsidiary of Walker Manufacturing Company, United States
Welded Tube of Canada Limited, 111 Rayette Rd. Concord, Ontario L4K 2E9	Concord, Ont. (2 plants)	300 000	Mechanical, structural and oil country	½ - 10¾ 3/8 - 8 sq. wall thickness .028 - .500	6 mechanical mills 5 structural mills All electric resistance weld
Windsor Tube & Metal Inc. 2125 Ambassador Drive Windsor, Ontario N9C 3R5	Windsor, Ont.	29 000	Mechanical and structural tubing	1 - 3	Closed operations.

MAJOR IRON POWDER AND FERRITE PRODUCERS

Company	Raw Material	Type of Process	Annual Capacity (tonnes)	Product	Remarks
Domfer Metal Powders Ltd. P.O. Box 970 Station H Montreal, Quebec H3G 2M9	Steel scrap, with some pig iron and mill scale	Scrap is melted, shotted; shot is screened, ground, decarburized. Powder is pulverized and packaged	18 145	Iron powder for pressing, welding, scarfing, etc.	Original company purchased by Domtar Inc. in 1959. Subsequently purchased by Domfer in 1976, an independent company. 50% expansion 1980.
Quebec Metal Powders Limited Tracy, Quebec J3P 5P7	Molten iron	Molten iron is shotted; shot is decarburized and ground	56 000	Iron powder for pressing, welding, scarfing and miscellaneous applications	Wholly-owned subsidiary of QIT-Fer et Titane Inc. $10 million capital cost.